

### **REMARKS**

Claims 1-24 are pending. The claims have been amended only to clarify the language for editorial purposes or to more particularly claim the invention. Claim 2 is canceled and incorporated into Claim 1. The markush group also incorporated into Claim 1 finds support in canceled 5. The propellant 1,1-difluoroethane is also added and finds support in the recitation of Dymel 152A™ at page 7, line 23 of the specification. Dymel-134A™ is already addressed in the recitation of 1,1,1,2-tetrafluoroethane from canceled Claim 5. Claims 21-24 are new finding support in Claim 1, as amended, and from page 7, line 23 of the specification. Accordingly, this Amendment incorporates no new matter.

### **Rejection under 35 U.S.C. § 112, Second Paragraph**

Claims 3-4 and 12 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse.

With respect to the basis for rejecting Claims 3-4, Applicants point out that an ester is a commonly known term referring to compounds containing an ester functionality. Accordingly, one of ordinary skill in the art need not have this term defined in the specification to be appraised of its meaning. With respect to the basis for rejecting Claim 12, the claim has been amended to remove the adjective “essential.” Reconsideration and withdrawal of the rejection is respectfully requested.

### **Rejection under 35 U.S.C. § 102**

Claims 1, 3, 5-12, 17 and 19-20 stand rejected under 35 U.S.C. § 102(b), as anticipated by U.S. Patent No. 5,851,544 to Penska et al. Applicants respectfully traverse.

Penska et al. fails to teach a cosmetic composition comprising, *inter alia*, a carrier including a propellant wherein the propellant comprises at least one member selected from the

group consisting of nitrous oxide, argon, nitrogen, oxygen, propane, butane, isobutane, trichloromonofluoromethane, dichlorodifluoromethane, dichlorotetrafluoromethane, monobromonochlorodifluoromethane, monobrotrichlorodifluoromethane, trichlorotrifluoromethane, tetrafluoromethane, octafluorocyclobutane, 1,1,1,2-tetrafluoroethane, 1,1-dichloro-2,2,2-trifluoroethane, 1-chloro-1,1-difluoroethane, 1,1-difluoroethane and dimethyl ether.

On the contrary, Penska et al. is directed to a composition comprising fluorocarbons that are at least 6 carbons or higher. The relevant portion of Penska et al. is recited as follows:

“for the purpose of the invention fluorocarbons will be selected so that they are liquid (not gas and not solid) at room temperature, i.e. their boiling point is higher than 40 C. and preferably higher than 60 C. Thus, in practice fluorocarbons of the invention will have *at least 6 carbon atoms* and preferably 8 to 10 carbon atoms.”

See Penska et al. at column 2, lines 50-59, *emphasis added*.

Absolutely no propellant within the scope of the invention is a fluorocarbon having at least six carbon atoms. Accordingly, Penska et al. fails to anticipate the claim.

Furthermore, Penska et al. fails to teach, expressly or inherently, a composition with any sufficient amount of carbon dioxide to meet the claim. Claim 1 requires, *inter alia*, a cosmetic composition comprising 0.1 to about 8 % by weight of carbon dioxide. There is no express teaching anywhere in Penska et al. of a weight determination in carbon dioxide. Instead, the Examiner appears to be making an anticipatory rejection based on some purported inherent disclosure in Penska et al. However, Penska et al. fails to meet the requirements for inherency in that the actual amount of carbon dioxide in any compositions disclosed will have far less than is needed to meet the claim designated amount.

Note that in Penska et al., the amount of carbon dioxide present in any disclosed

embodiment is dependent upon how much of this gas will associate with a fluorocarbon component under atmospheric pressure.

The most relevant disclosure from Penska et al on this point states as follows:

According to the present invention a fluorocarbon is infused with carbon dioxide, preferably in a CO<sub>2</sub> atmosphere (e.g., under a CO<sub>2</sub> blanket) either before or after the fluorocarbon is incorporated into a final composition. In the most preferred embodiment of the invention, the fluorocarbon and the rest of the composition are each infused with carbon dioxide, under a CO<sub>2</sub> blanket, and then mixed with each other, *under a CO<sub>2</sub> blanket*. The infusion with carbon dioxide is attained by *bubbling the gas through* the fluorocarbon.

See Penska et al., column 3, lines 16-24, *emphasis* added.

By way of contrast, in the present invention a specified portion by weight of carbon dioxide is added to form the claimed compositions. Note that in all the exemplary embodiments of the present invention, carbon dioxide is charged under pressure into a closed container in forming the cosmetic compositions.

Given that the carbon dioxide is only introduced to the compositions in Penska et al. in a way that the gas passively associates with the fluorocarbon component, and given that this fluorocarbon component is only a minor part of the compositions in Penska et al., it is not reasonable to postulate that there is an inherent disclosure which meets Applicant's claim designated amount of carbon dioxide. There is no adequate basis in Penska et al. to support this contention. Accordingly, the Office Action does not meet the anticipation by inherent disclosure requirement since the possibility that a disclosure may be inherent is not sufficient.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) "To establish inherency, the extrinsic evidence

must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Also see MPEP 2112.

Accordingly, for numerous reasons, Penska et al. fails to anticipate the claimed invention. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Also, See MPEP 2131.

For the reasons given above the, anticipatory rejection should be withdrawn.  
Reconsideration and withdrawal are respectfully requested.

#### **Rejections under 35 U.S.C. § 103**

Claims 4 and 14-16 stand rejected under 35 U.S.C. § 103(a), as rendered unpatentable based on Penska et al. alone.

Claims 2 and 18 stand rejected under 35 U.S.C. § 103(a), as rendered unpatentable based on Penska et al. combined with U.S. Patent No. 5,322,683 to Mackles et al.

Claim 13 stands rejected under 35 U.S.C. § 103(a), as rendered unpatentable based on Penska et al. combined with U.S. Patent No. 6,074,647 to Zimmerman et al.

For the reasons given above with respect to the anticipatory rejection, the rejections based in obviousness also fail to teach or suggest every element in the claims. In addition, Penska et al. teaches away from the claimed invention as the propellants in Applicants' invention would not be

operable according to Penska et al. requiring fluorocarbons having *at least 6 carbon atoms*.

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Thus one of ordinary skill in the art, upon reviewing Penska et al. would be motivated to employ fluorocarbons having at least six carbon atoms, and NOT propellant compounds that are not fluorocarbons or are fluorocarbons having at less than six carbons.

The secondary references all fail to cure this deficiency in Penska et al. Neither Mackles et al. nor Zimmerman et al. disclose, *inter alia*, a cosmetic composition for improving the appearance of skin comprising from about 0.1 to about 8 wt% carbon dioxide; and from about 92 to about 99 wt% of a dermatologically acceptable carrier wherein said carrier is free of fluorocarbons. Although Mackles et al. does disclose carbon dioxide as a propellant, Applicants note that Claim 1 does not embrace this embodiment.

Furthermore, Mackles et al. fails to disclose carbon dioxide as a component of the cosmetic composition. A propellant, by its very nature, is not a part of the cosmetic composition as it is exhausted in delivering the cosmetic composition to its target. So there is no reasonable basis to conclude that the carbon dioxide propellant in Mackles et al. would necessarily satisfy the carbon dioxide component requirement of the cosmetic composition as claimed. Accordingly, as similarly demonstrated above with respect to Penska et al., a position taken in support of the rejection involving Mackles et al., that Mackles might inherently disclose a cosmetic composition containing sufficient carbon dioxide, is simply not tenable as this

interpretation does not necessarily flow from the disclosure in Mackles et al.

Applicants also submit that Penska et al. is not combinable with either Mackles et al. or Zimmerman et al. as Penska et al. is limited, by its express teaching, to fluorocarbon propellents' having at least six carbon atoms.

Applicants submit that the Examiner has not established a *prima facie* case of obviousness with respect to the claimed invention. The PTO has the burden under § 103(a) to establish a *prima facie* case of obviousness. In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under § 103(a), there must be a showing of proper motivation to do so. The PTO "can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 15 U.S.P.Q.2d 1321 (Fed. Cir. 1990); see also In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art embodiment could not be turned upside down without motivation to do so).

For all the above reasons, the obviousness rejections should be withdrawn.  
Reconsideration an withdrawal of the obviousness rejections is respectfully requested.

## CONCLUSION

All rejections having been addressed by the present amendments and response, Applicants assert that the present case is in condition for allowance and respectfully request early notice to that effect. If any issues remain to be addressed in this matter which might be resolved by discussion, the Examiner is respectfully requested to call Applicants' undersigned counsel at the number indicated below.

Respectfully submitted,

PIPER RUDNICK LLP

A handwritten signature in black ink, appearing to read 'S. Kelber', with a long horizontal line extending to the right.

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

In re Rijckaert (CA FC) 28 USPQ2d 1955 (11/23/1993)

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In re Rijckaert (CA FC) 28 USPQ2d 1955

**In re Rijckaert**

**U.S. Court of Appeals Federal Circuit**  
**28 USPQ2d 1955**

Decided November 23, 1993

No. 93-1206

**Headnotes**

**PATENTS**

**1. Patentability/Validity -- Obviousness -- Relevant prior art -- Particular inventions**  
**(§ 115.0903.03)**

Board of Patent Appeals and Interferences erred by affirming rejection, on grounds of obviousness, of claims for apparatus to record and reproduce electric signal on magnetic record carrier, since references relied upon to reject claims do not provide basis for prima facie determination of obviousness, in that prior art relied upon, either individually or when combined, does not disclose, suggest, or render obvious claimed invention, and since applicant's burden to rebut rejection of obviousness does not arise until prima facie case has been established.

**Case History and Disposition:**

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Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Application for patent, serial no. 07/345,396, filed by Albert M.A. Rijckaert and Joannes A.E. Van Der



Kop. From decision affirming final rejection of claims, applicants appeal. Reversed.

**Attorneys:**

Edward W. Goodman (Algy Tamoshunas, with him on brief), Tarrytown, N.Y., for appellant.

Lee E. Barrett, associate solicitor, PTO (Fred E. McKelvey, solicitor, with him on brief), for appellee.

**Judge:**

Before Lay, senior circuit judge (Eighth Circuit, sitting by designation), and Mayer and Lourie, circuit judges.

**Opinion Text**

**Opinion By:**

Lourie, J.

Albert Rijckaert and Joannes van der Kop ("Rijckaert") appeal from the decision of the United States Patent and Trademark Office (PTO) Board of Patent Appeals and Interferences affirming the final rejection of claims 5-12, all of the pending claims in patent application serial no. 07/345,396, as being unpatentable under 35 U.S.C. Section 103 (1988). Because the references relied upon to reject the claims do not provide the basis for a *prima facie* determination that the claimed invention would have been obvious, we reverse.

**BACKGROUND**

The patent application at issue relates to an apparatus for recording and reproducing an electric signal on a magnetic record carrier. Independent claim 11 is drawn to a recording apparatus and it specifies a relationship between time expansion or compression and three variables  $a$ ,  $n$ , and  $M$ . Claim 11 reads, in pertinent part:

11. An apparatus for recording an electric signal on a magnetic record carrier in tracks which are inclined relative to the longitudinal direction of said record carrier, comprising: . . .

. . . . [a] time-base correction circuit provid [ing] a time expansion or time compression of the signal blocks by a factor of  $a*n/(180*(M+1))$ , where  $a$  is the

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wrapping angle of the record carrier around the head drum and differs from 180 degrees,  $n$  is the number of head pairs, and  $M$  is the number of times within a specific time interval that a head pair which comes in contact with the record carrier during said time interval does not record a signal on the record carrier, said time interval being defined by those instants at which two consecutive track pairs are recorded by one or two head pairs.

Independent claim 12 is drawn to an apparatus for reproducing a recorded signal and it recites the reciprocal relationship between time compression or expansion and the three variables  $a$ ,  $n$ , and  $M$ . Dependent claims 5-10 further limit claims 11 or 12.

The Board upheld the final rejection of claims 5 and 7-12 under 35 U.S.C. Section 103 as being unpatentable over U.S. Patent 4,757,392 to Awamoto in view of Driessen et al., *An Experimental Digital Video Recording System*, CE-32 I.E.E.E. Transactions on Consumer Electronics 3, Aug. 1986, at 362-70. The Board also upheld the final rejection of claim 6 as being unpatentable over Awamoto and Driessen in view of U.S. Patent 4,542,417 to Ohta.

## DISCUSSION

We review *de novo* the Board's ultimate determination of obviousness. *In re De Blauwe*, 736 F.2d 699, 703, 222 USPQ 191, 195 (Fed. Cir. 1984). Underlying factual inquiries, such as the scope and content of the prior art, differences between the prior art and the claimed invention, and level of ordinary skill in the art are reviewed for clear error. *See In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985).

In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. *Id.* "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)). If the examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

All of the claims except claim 6 stand rejected under 35 U.S.C. Section 103 as being obvious over Awamoto in view of Driessen. 1 Awamoto, the primary reference, discloses a signal processing circuit for a video recording and reproducing apparatus. Awamoto specifically discloses the time expansion of an input signal by a factor of two and the corresponding time compression of an output signal in a manner inverse to that of the time expansion. Further, Awamoto uses two video heads mounted on a rotary drum "of any of a well known video tape loading mechanism such that [the heads] follow parallel tracks skewed relative to the length of video tape." Driessen discloses a recording system using two pairs of heads mounted on piezo-ceramic actuators.

The Board concluded that the subject matter of the claims would have been obvious over Awamoto in view of Driessen, stating that "the time expansion or time compression relationship is satisfied for the expansion of two disclosed [in] Awamoto when a wrapping angle of 360 degrees, one pair of heads and no non-recording intervals are assumed." The Board further asserted that the recognition of the claimed relationship between time expansion/compression and the three variables *a*, *n*, and *M* is "the mere discovery of a relationship that is applicable to [a] prior art apparatus[, and] does not [give] rise to a patentable invention." Thus, in affirming the rejection, the Board first assumed that the claim limitation at issue, the relationship between time expansion/compression and the three variables, was somehow "inherent" in the prior art as shown by Awamoto. The Board also assumed specific values for the claimed variables in order to assert that Awamoto's device satisfies the claimed relationship.

[1] Rijckaert argues that the examiner has not established a *prima facie* case of obviousness and that the examiner's assumptions do not constitute the disclosure of prior art. We agree. Awamoto does not disclose the wrapping angle of the record carrier around the head drum or the number of times that a head pair which comes in contact with the record carrier does not record a signal on the record carrier. Nor does Awamoto discuss the claimed relationship of the three

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variables to time expansion/compression. 2 Driessen, the secondary reference, is relied upon only to teach the provision of a pair of write heads having a mechanically rigid coupling to each other and does not remedy the deficiencies of Awamoto. Thus, the prior art relied upon does not disclose, suggest, or render obvious the claimed invention, either individually or when combined.3

Awamoto does not describe the use of time expansion and compression as a means of optimally filling tracks, much less suggest that the three variables of the claims are even a factor in determining the amount of time expansion or time compression. Rather, Awamoto is concerned primarily with processing a high-quality broadcast television signal for use in conventional video machinery, and with compensating for errors introduced to such a signal by a transfer circuit. The Commissioner's assertion

"that the [analysis discussed in his brief] and Awamoto demonstrate that the relationship was, in fact, well known in the art" is unavailing. While the court appreciates the Commissioner's thorough explanation of the claimed relationship in his brief, the Commissioner's brief is not prior art. The prior art is Awamoto, and it does not indicate that the relationship is well known in the art nor does it suggest the claimed relationship. *See In re Yates*, 663 F.2d 1054, 211 USPQ 1149, 1151 (CCPA 1981) (when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference).

To support the Board's affirmance of the rejection, the Commissioner points out that in the recording art, the exact matching of signal time to recording time is an optimal condition, and that this condition would be met by fulfilling the claimed relationship. While the condition described may be an optimal one, it is not "inherent" in Awamoto. Nor are the means to achieve this optimal condition disclosed by Awamoto, explicitly or implicitly. "The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient [to establish inherency]." *In re Oelrich*, 666 F.2d 578# 581-82, 212 USPQ 323, 326 (CCPA 1981) (citations omitted) (emphasis added). "That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown." *In re Spormann*, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966). Such a retrospective view of inherency is not a substitute for some teaching or suggestion supporting an obviousness rejection. *See In re Newell*, 891 F.2d 899, 901, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989).

Rijckaert also argues that the rejection of dependent claim 6 as being obvious over Awamoto and Driessen in view of Ohta is improper. Ohta discloses an apparatus for compensating for signal loss in a single-head video recorder using a time compression factor of 3/5 (a signal of time period  $5t/4$  is compressed into a track of time period  $3t/4$ ) so that a signal is recorded completely during the time period that it takes the recording head to scan the magnetic tape. Regarding the Ohta patent, the examiner stated, "Ohta was only relied upon to support the idea that other compression factors are used in the prior art. . . ." 4 The relationship between the time expansion/compression and the three variables recited in the claims from which claim 6 depends, which is absent in the combination of Awamoto and Driessen, is not supplied by Ohta. Thus, we agree that the rejection of claim 6 under Section 103 is improper for the reasons set forth above with respect to the other claims.

While the Commissioner criticizes Rijckaert's arguments regarding the Section 103 rejections, the burden to rebut a rejection of obviousness does not arise until a *prima facie* case has been established. In the case before us, it was not.

## CONCLUSION

The decision of the United States Patent and Trademark Office Board of Patent

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Appeals and Interferences affirming the final rejection is reversed.

**REVERSED**

## Footnotes

Footnote 1. The claims stand or fall together since no separate argument for patentability has been made for each claim.

Footnote 2. The Commissioner admits that other limitations recited in claims 11 and 12 are not found in Awamoto; however, those limitations were not argued before the Board or this court. Thus, we agree with the Commissioner that those limitations are not at issue here.

Footnote 3. The Board also noted that the claims are not "specific" in that they claim the three variables as a "factor" of the expansion or compression time. The Board stated, "claims 11 and 12 fail to

say which of expansion time or compression time is factored by the variables, how or when one of the two times is selected based on the variables or how each of the two times is related to the variables." The Board further stated, "the relationship is probably satisfied by any prior art video tape recording and reproducing apparatus that otherwise satisfies the remaining requirements of the claims at bar." While the Board's position implies a possible rejection based upon 35 U.S.C. Section 112, this issue is not before us. In any event, the statement that the relationship is "probably satisfied" by the prior art is speculative and therefore does not establish a *prima facie* case of unpatentability.

Footnote 4. The Board did not specifically address the rejection of claim 6; therefore, claim 6 was considered to be affirmed for the reasons stated by the examiner. See 37 C.F.R. Section 1.196(a) (1993).

- End of Case -

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

In re Robertson (CA FC) 49 USPQ2d 1949 (2/25/1999)

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In re Robertson (CA FC) 49 USPQ2d 1949

**In re Robertson**

**U.S. Court of Appeals Federal Circuit**  
**49 USPQ2d 1949**

**Decided February 25, 1999**  
**No. 98-1270**

**Headnotes**

**PATENTS**

**1. Patentability/Validity -- Anticipation -- In general (§ 115.0701)**

Element of claim is not "inherent" in disclosure of prior art reference unless extrinsic evidence clearly shows that missing descriptive matter is necessarily present in thing described in reference, and that it would be so recognized by persons of ordinary skill; inherency may not be established by mere probabilities or possibilities, and mere fact that certain thing may result from given set of circumstances is not sufficient.

**2. Patentability/Validity -- Anticipation -- Identity of elements**

Board of Patent Appeals and Interferences improperly rejected application claim for fastening and disposal system for diapers on ground that prior reference inherently contained all elements of claim, since board failed to recognize that third mechanical fastening means of application claim, used to secure diaper for disposal, was separate from and independent of two other means used to attach diaper to wearer, and since board's theory that two fastening devices in reference were capable of being intermingled to perform same function as third and first fastening elements in application claim rests upon mere probability or possibility that is insufficient to establish inherency.

**Case History and Disposition:**

Page 1949

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Anthony J. Robertson and Charles L. Scripps, serial no. 08/171,484 (fastening and disposal system for diapers). Applicants appeal from rejection of application claim 76 on grounds of anticipation and obviousness. Reversed; Rader, J., concurring in separate opinion.

**Attorneys:**

Kenneth R. Adamo and Calvin P. Griffith, of Jones, Day, Reavis & Pogue, Cleveland, Ohio; Gregory A. Castanias, of Jones, Day, Reavis & Pogue, Washington, D.C.; Steven W. Miller, of Procter & Gamble Co., Cincinnati, Ohio, for appellants.

Linda Moncys Isacson, associate solicitor, Albin F. Drost, acting solicitor, and John M. Whealan, associate solicitor, U.S. Patent and Trademark Office, Arlington, Va., for appellee.

**Judge:**

Before Newman, circuit judge, Friedman, senior circuit judge, and Rader, circuit judge.

**Opinion Text**

**Opinion By:**

Friedman, S.J.

This appeal challenges the decision of the Board of Patent Appeals and Interferences

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(Board) that claim 76 in the appellants' patent application was anticipated by and obvious over United States Patent No. 4,895,569 (the Wilson patent). We reverse.

I

Both claim 76 and Wilson involve fastening and disposal systems for diapers. In both, the body of the diaper features a small front and a larger rear section. The outer edges of those sections are attached at the wearer's waist in the hip area. Once the diaper is soiled and then removed, the smaller front section is rolled up into the larger rear section and secured in this rolled-up configuration by fasteners.

The appellants' application is for "an improved mechanical fastening system for . . . disposable absorbent articles [ *i.e.* , diapers] that provides convenient disposal of the absorbent article." [J.A. 12] Claim 76 covers:

[A] mechanical fastening system for forming side closures . . . comprising a closure member . . . comprising a first mechanical fastening means for forming a closure, said first mechanical fastening means comprising a first fastening element; a landing member . . . comprising a second mechanical fastening means for forming a closure with said first mechanical fastening means, said second mechanical fastening means comprising a second fastening element mechanically engageable with said first element; and disposal means for allowing the absorbent article to be secured in a disposal configuration after use, said disposal means comprising a third mechanical fastening means for securing the absorbent article in

the disposal configuration, said third mechanical fastening means comprising a third fastening element mechanically engageable with said first fastening element . . .

Claim 76 thus provides for two mechanical fastening means to attach the diaper to the wearer and a third such means for securing the diaper for disposal.

The Wilson patent discloses two snap elements on fastening strips attached to the outer edges of the front and rear hip sections of the garment. The fastening strips may also include "secondary load-bearing closure means" -- additional fasteners to secure the garment; they may be identical to the snaps.

Wilson also states:

[D]isposal of the soiled garment upon removal from the body is easily accomplished by folding the front panel . . . inwardly and then fastening the rear pair of mating fastener members . . . to one another, thus neatly bundling the garment into a closed compact package for disposal.

[JA 085 at col. 6, 11, 20-25]

In other words, Wilson does not provide a separate fastening means to be used in disposing of the diaper. Instead, it suggests that disposal of the used diaper may be "easily accomplished" by rolling it up and employing the same fasteners used to attach the diaper to the wearer to form "a closed compact package for disposal."

In holding that the invention claim 76 covers was anticipated by Wilson, the Board did not hold that Wilson set forth a third fastening means. Instead, it found that Wilson anticipated claim 76 "under principles of inherency." [J.A. 5] Applying the language of claim 76 to the operation of Wilson, it concluded that "an artisan would readily understand the disposable absorbent garment of Wilson . . . as being inherently capable of [making the secondary load-bearing closure means] (third fastening element) mechanically engageable with [the other snap fasteners on the fastening strip] (first fastening element)" [J.A. 5] -- *i.e.*, using the secondary closure not with its mate, but with one of the primary snap fasteners. The Board summarily affirmed the examiner's alternative ruling that claim 76 would have been obvious in light of Wilson because "claim 76 lacks novelty." [J.A. 7]

## II

Anticipation under 35 U.S.C. Section 102(e) requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

A. The Wilson patent does not expressly include a third fastening means for disposal of the diaper, as claim 76 requires. That means is separate from and in addition to the other mechanical fastening means and performs a different function than they do. Indeed, Wilson merely suggests that the diaper may be closed for disposal by using the same fastening means that are used for initially attaching the diaper to the body.

[1] B. If the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if that element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that

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it would be so recognized by persons of ordinary skill." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id.* at 1269, 20 U.S.P.Q.2d at 1749 (quoting *In re Oelrich*, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981).

In finding anticipation by inherency, the Board ignored the foregoing critical principles. The Board made no attempt to show that the fastening mechanisms of Wilson that were used to attach the diaper to the wearer also "necessarily" disclosed the third separate fastening mechanism of claim 76 used to

close the diaper for disposal, or that an artisan of ordinary skill would so recognize. It cited no extrinsic evidence so indicating.

[2] Instead, the Board ruled that one of the fastening means for attaching the diaper to the wearer also could operate as a third fastening means to close the diaper for disposal and that Wilson therefore inherently contained all the elements of claim 76. [J.A. 5] In doing so, the Board failed to recognize that the third mechanical fastening means in claim 76, used to secure the diaper for disposal, was separate from and independent of the two other mechanical means used to attach the diaper to the person. The Board's theory that these two fastening devices in Wilson were capable of being intermingled to perform the same function as the third and first fastening elements in claim 76 is insufficient to show that the latter device was inherent in Wilson. Indeed, the Board's analysis rests upon the very kind of probability or possibility -- the odd use of fasteners with other than their mates -- that this court has pointed out is insufficient to establish inherency.

### III

The Board's entire discussion of obviousness was as follows: *The rejection of claim 76 under 35 USC Section 103*

We sustain the rejection of claim 76 under 35 USC Section 103. Above, we found that claim 76 lacks novelty. Lack of novelty is the ultimate of obviousness. See *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982). Thus, claim 76 is appropriately rejected under 35 USC Section 103 as being unpatentable.

The "lack of novelty" upon which the Board based its conclusion of obviousness, however, was its finding of anticipation. Our rejection of that finding eliminates the sole basis of the Board's obviousness determination, which therefore cannot stand. See *In re Adams*, 364 F.2d 473, 480, 150 U.S.P.Q. 646, 651 (C.C.P.A. 1966).

In his brief the Commissioner argues:

Moreover, even if this court interprets claim 76 to require two separate fasteners to perform the closure and disposal functions, it would have been well within the knowledge of one of ordinary skill in the art to take Wilson's one fastener and make it into two separate fasteners. See [ *In re* ] *Graves*, 69 F.3d [1147,] 1152, 36 USPQ2d [1697,] 1701 [(Fed. Cir. 1995)] (When evaluating a reference, it is appropriate to consider the knowledge of a skilled artisan in combination with the teaching of the reference.). Accordingly, claim 76 would have been obvious to one of ordinary skill in the art, and the rejection should be affirmed by this Court.

That, of course, was not the ground on which the Board based its obviousness ruling. We decline to consider counsel's newly-minted theory as an alternative ground for upholding the agency's decision. See *In re Soni*, 54 F.3d 746, 751, 34 U.S.P.Q.2d 1684, 1688 (Fed. Cir. 1995) (citing *In re DeBlauwe*, 736 F.2d 699, 705 n.7, 222 U.S.P.Q. 191, 196 n.7 (Fed. Cir. 1984)). The Board's obviousness ruling cannot be sustained on the ground given by the Board.

### CONCLUSION

The decision of the Board of Patent Appeals and Interferences affirming the examiner's rejection of claim 76 as anticipated by and obvious over the Wilson patent is

### REVERSED .

Rader, J., concurring.

Robertson asserts that the prior art Wilson patent does not teach three elements of claim 76: a "third mechanical fastening means," a disposal means on the "outside surface" of the body portion, and end regions that are "in an overlapping configuration when worn." In reversing the Board, this court relies solely on the purported failure of Wilson to teach the third fastening means. Because I believe Wilson teaches such a means, but does not teach the other two limitations at issue, I concur.

In its analysis, this court assumes without discussion that the claimed "third mechanical fastening



means" covers a *separate* third mechanical

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fastening means. This issue is key, for if the claim does not require a separate third fastening means, but instead allows the first fastening means to also serve as the third, then the prior art Wilson patent clearly teaches that element of the claim. For two reasons, this claim does not, to my eyes, require a separate third fastening means. First, the claim does not specifically recite a *separate* third fastening means. Second, because the claim is in means-plus-function form, this court consults the specification to identify structure. The specification explicitly teaches that the first and third fastening elements can be the same so long as they are complementary, as they are in Wilson. Accordingly, I agree with the Board that Wilson teaches the claimed "third fastening element."

Wilson does not, however, teach either of the other two claim limitations at issue. As to the disposal means on the "outside surface" of the body portion, Wilson's figs. 12 and 13a-d show the disposal means on the inside of the body portion. As to the end regions that are "in an overlapping configuration when worn," Wilson explicitly teaches that the end regions should abut, not overlap, when worn. To overcome these teachings, the Board relied on the following statement in Wilson: "Further, the fastener members need not be previously mounted on a separate strip as shown then bonded . . . to the stretchable outer cover . . . . Multi-component snaps are available which may be applied directly to a stretchable outer cover material . . . ." Col. 7, l. 65 to col. 8, l. 3. The Board opined that applying snaps directly to the outer cover would result in both a disposal means on the "outside surface" and end regions "in an overlapping configuration when worn." Simply put, the Board has put more weight on this teaching than it can bear. It is far from clear what effect applying the snaps directly to the outer cover will have on the Wilson diaper configuration, let alone that it will result in a configuration satisfying the claim elements at issue. Accordingly, because I believe that the Board clearly erred in this interpretation of Wilson, I would reverse on this ground.

- End of Case -

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

Richardson v. Suzuki Motor Co. Ltd. (CA FC) 9 USPQ2d 1913 (2/16/1989)

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Richardson v. Suzuki Motor Co. Ltd. (CA FC) 9 USPQ2d 1913

**Richardson v. Suzuki Motor Co. Ltd.**

**U.S. Court of Appeals Federal Circuit**  
**9 USPQ2d 1913**

Decided February 16, 1989

Nos. 87-1497, -1498, -1502, 88-1083, -1084

Headnotes

**PATENTS**

**1. Patentability/Validity -- In general (§ 115.01)**

**JUDICIAL PRACTICE AND PROCEDURE**

**Procedure -- Jury trials (§ 410.42)**

Jury may decide questions of anticipation and obviousness, either as separate special verdicts or en route to verdict on validity, which is also proper question for determination by jury, since there is no reason to distinguish submission of legal questions to jury in patent cases from such jury submissions routinely made in other types of cases.

**PATENTS**

## **2. Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)**

Jury's "advisory" verdict that patentee's rising rate motorcycle suspension was not anticipated, and federal district court's independent holding of validity, are affirmed since reasonable jury could have concluded that claim in issue was not anticipated, in view of totality of evidence including prior art consisting of two prior motorcycle suspension patents and two designs for race car suspensions, and since analysis of district court's decision, based on same prior art, shows no clear error.

## **3. Patentability/Validity -- Obviousness -- Evidence of (§ 115.0906)**

### **JUDICIAL PRACTICE AND PROCEDURE**

#### **Procedure -- Jury trials (§ 410.42)**

Federal district court's conclusion, after jury entered verdict of nonobviousness, that obviousness of plaintiff's invention had not been proven and that claim in issue is not invalid, is affirmed despite court's erroneous belief that obviousness issue could only be presented to jury for "advisory" verdict, since review of record shows that there was substantial evidence on which reasonable jurors could conclude that claim had not been proved obvious, and therefore no reversible error occurred.

### **PATENTS**

## **4. Infringement -- Doctrine of equivalents -- In general (§ 120.0701)**

### **JUDICIAL PRACTICE AND PROCEDURE**

#### **Procedure -- Jury trials (§ 410.42)**

Federal district court's judgment of infringement, entered on jury verdict of infringement, is affirmed despite jury's special verdicts that defendant's motorcycle rear suspension linkages are not "equivalent" to patented system, since jury was given incorrect definition of "equivalents" and special verdict interrogatories were prejudicial in that they focused on differences between patented and accused devices without mention of similarities, and since, given correct instructions, reasonable jury could not have found that accused systems, which contain every element of relevant claims but one, are not equivalent to claimed invention.

### **REMEDIES**

**5. Monetary -- Damages -- Patents -- Reasonable royalty (§ 510.0507.03)**

Jury's award of 50 cents for each infringing motorcycle sold by defendant as damages for infringement of plaintiff's motorcycle suspension system is vacated, since federal district court improperly instructed jury that infringement was "relatively minor," and since, absent such prejudicial instruction, there was no reasonable basis on which jury could have found that royalty awarded was reasonable.

**PATENTS**

**6. Title -- Construction of license agreement (§ 150.07)**

**TRADEMARKS AND UNFAIR TRADE PRACTICES**

**Trade secrets -- In general (§ 400.01)**

Federal district court incorrectly instructed jury that only "valid trade secrets" were subject to restraints in contract between plaintiff and defendant since, in view of defendant's agreement not to use or disclose "technical information, know-how, inventions, use data, and design specifications" that it received from plaintiff, jury instructions limited scope of protected information beyond that set forth in contract.

**7. Trade secrets -- Elements of trade secret (§ 400.03)**

**Trade secrets -- Disclosure and misappropriation (§ 400.07)**

Federal district court erred by instructing jury that information defendant could have developed on its own was not subject to trade secret protection, that "slavish" copying is necessary for trade secret misappropriation, and that jury could decide whether plaintiff could have both valid patent and legal protection for later-developed information on patented invention, since information capable of independent development or discovery from other sources is not excluded from trade secret protection, misappropriator cannot escape liability by showing modification of, or improvement upon, protected information, and legal status of information and improvements made after patent application has been filed is independent of presence or absence of patent application or ensuing patent.

**8. Trade secrets -- Elements of trade secret (§ 400.03)**

## **JUDICIAL PRACTICE AND PROCEDURE**

### **Procedure -- Jury trials (§ 410.42)**

Federal district court abused its discretion in granting defendant's motion for new trial on issue of whether certain information constituted trade secrets, since court may not vacate jury verdict unless verdict is contrary to clear weight of evidence, is based upon false evidence, or would cause miscarriage of justice, and since there was substantial evidence before jury that information in question was not publicly known, that defendant agreed to receive and preserve it in confidence, and that information fully satisfies statutory and jurisprudential requirements for protectible trade secrets.

## **REMEDIES**

### **9. Monetary -- Damages -- In general (§ 510.0501)**

Jury's assessment of \$104,000 in damages for defendant's use of certain information obtained from plaintiff is affirmed, since there was substantial evidence presented at trial that would enable jury to determine sum awarded.

### **10. Non-monetary and injunctive -- Equitable relief -- In general (§ 505.0701)**

#### **Non-monetary and injunctive -- Equitable relief -- Permanent injunctions (§ 505.0709)**

Federal district court erred in denying plaintiff's motion for injunction after entering final judgment in plaintiff's favor on issue of patent infringement, since irreparable harm is presumed when clear showing of patent validity and infringement is made and therefore injunction should issue if no sound reason exists for denying it, and patentee should not be denied its right to exclude others from using invention once infringement is established.

## **PATENTS**

### **11. Patent misuse -- Improper procurement and enforcement (§ 140.03)**

## **TRADEMARKS AND UNFAIR TRADE PRACTICES**

**Trade secrets -- Disclosure and misappropriation (§ 400.07)****REMEDIES****Monetary -- Damages -- Unfair trade practices (§ 510.0508)**

Federal district court improperly vacated jury verdicts and ordered new trial on fraud issues after jury found for plaintiff on those issues and entered award of punitive damages, since, although court may have believed that defendant did not commit fraud, record shows that there was evidence on which reasonable jury could support verdicts, and since jury's award of punitive damages, which may be assessed if fraud has been expressly found, was not so disproportionate to damages sustained as to be result of passion or prejudice.

**PATENTS****12. Patentability/Validity -- Inventorship (§ 115.13)****Title -- Assignments (§ 150.03)****REMEDIES****Non-monetary and injunctive -- Equitable relief -- In general (§ 505.0701)**

Federal district court erred in denying motion for assignment of defendant's patent to plaintiff after jury returned special verdict finding that invention asserted in patent was first disclosed to defendant by plaintiff, since separate special verdict in which jury found that plaintiff was not "real" inventor of invention asserted in disputed patent, and on which court based its denial of motion, reflects jury's understanding of co-inventor status of third party and contributions of others in development of alternate embodiment of invention and therefore does not diminish force of verdict naming plaintiff as person who first disclosed invention to defendant, since neither question of whether plaintiff is sole or joint inventor, which is not before court, nor presence in claims of further modification beyond that disclosed by plaintiff to defendant, negates imposition of equitable remedy of assignment of patent, and since, based on jury verdict, plaintiff is entitled to ownership of patent as against defendant.

**13. Monetary -- Damages -- Prejudgment interest (§ 510.0511)**

Federal district court erred in denying plaintiff's request for prejudgment interest on damage awards for patent infringement and misappropriation of trade secrets, since allowance of such interest is required if, as in instant case, there is no showing of exceptional circumstances or reason why damages for trade secret misappropriation should be treated differently from those for patent infringement.

## **JUDICIAL PRACTICE AND PROCEDURE**

### **14. Procedure -- Jury trials (§ 410.42)**

## **REMEDIES**

### **Monetary -- Damages -- Patents -- Increased damages (§ 510.0507.07)**

Federal district court erred in refusing to submit question of willful patent infringement to jury, since evidence adduced at trial concerning fraud, misappropriation of trade secrets, absence of any opinion by U.S. counsel concerning validity of plaintiff's patent at commencement of defendant's infringing activity, and defendant's bad faith, when viewed in light most favorable to plaintiff, does not permit finding of no willful infringement as only reasonable conclusion.

### **15. Monetary -- Attorney's fees; costs -- Patents (§ 510.0905)**

### **Monetary -- Attorney's fees; costs -- Unfair trade practices (§ 510.0907)**

Federal district court's award of only one-third of costs to plaintiff who prevailed on major substantive issues in suit exceeded court's authority, since plaintiff is entitled to statutory costs incurred before trial court.

### **Particular patents -- General and mechanical -- Vehicle suspension systems**

3,907,332, Richardson, suspension system for two-wheeled vehicles, valid and infringed.  
4,457,393, Tamaki and Suzuki, suspension device for motorcycles, assignment to Donald G. Richardson ordered.

## **Case History and Disposition:**

Appeal from the U.S. District Court for the Central District of California, Gray, J.

Action by Donald G. Richardson against Suzuki Motor Co. Ltd., U.S. Suzuki Motor Corp., Kawasaki Heavy Industries Ltd., Kawasaki Motors Corp., Yamaha Motor Co. Ltd., Yamaha Motor Corp. U.S.A., Kayaba Industry Co. Ltd. and Kayaba Industry Co., for patent infringement, breach of contract, fraud and misappropriation of trade secrets. From judgment holding plaintiff's patent not invalid and infringed, awarding damages for infringement and use of plaintiff's information by defendant, and from grant of defendant's motion for new trial on issues of trade secrets, fraud, and damages awarded for fraud, Richardson and Suzuki defendants cross-appeal. Affirmed in part, reversed in part, vacated in part, and remanded.

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Theresa A. Middlebrook, of Wagner & Middlebrook, Glendale, Calif., and Robert W. Driscoll, of Driscoll & Tomich, San Marino, Calif. (John E. Wagner, Glendale, with them on brief), for plaintiff/appellant.

John A. Fogarty, of Kenyon & Kenyon, New York, N.Y. (Richard S. Gresalfi and Dawn M. DiStefano, New York, N.Y., and Richard S. Rockwell, Tustin, Calif., with him on brief; Duffern H. Helsing and Halina F. Osinski, Santa Ana, Calif., of counsel), for defendants/cross-appellants.

**Judge:**

Before Skelton, senior circuit judge, and Smith and Newman, circuit judges.

**Opinion Text**

**Opinion By:**

Newman, J.

This appeal and cross-appeal are from the judgment of the United States District Court for the Central District of California, and involve issues of patent validity, infringement, breach of contract, fraud, misappropriation of trade secrets, and several related

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issues. 1 We affirm in part, reverse in part, vacate in part, and remand.

***The Invention***

The invention that led to this litigation is a motorcycle rear-wheel suspension system that smooths the ride over rough terrain, of interest particularly in off-road motorcycle riding. The roughness of the ride is due to bumps and dips in the terrain, transmitted from the wheels to the frame. An optimum rear-wheel suspension will maintain tire contact with the ground despite deflection by irregularities, will avoid "bottoming out" (an unsafe rising of the suspension), yet will achieve a smooth ride without reduction in safety. In 1974 even the best available suspensions did not maintain adequate tire contact with the ground in conjunction with attempts to eliminate bottoming out.

In mid-1974 Donald G. Richardson, a young mechanic in California, devised a solution to the problem, a modified suspension system that he installed in his own motocross motorcycle. Richardson replaced the conventional two-spring shock absorber suspension system with a system consisting of a single shock absorber plus a linkage consisting of a bell crank and connecting rod. This linkage generated a "rising rate" 2 -- a characteristic critical to the issue -- and produced a far superior ride, even as it



eliminated the dangerous bottoming out. Richardson testified about his first ride, at a hilly construction site near his house, as "utopia. I mean it was incredible"; over hard bumps it was "uncanny because it was so smooth"; "[t]he rear end didn't kick up. It just didn't bottom out and stayed down"; an "unbelievable feeling".

On November 25, 1974 Richardson filed a United States patent application on his invention, and on September 23, 1975 the application issued as United States Patent No. 3,907,332 (hereinafter the '332 or Richardson patent). Patent claim 9, which incorporates claim 1, is the only claim in suit. Claims 1 and 9 follow:

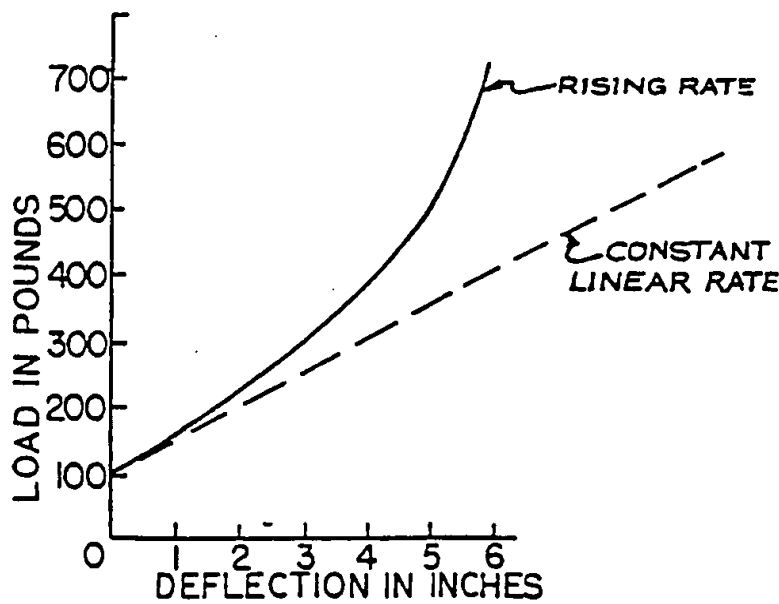
1. A suspension for two wheeled vehicles comprising:
  - a frame for the vehicle comprising a generally closed shape including upper and lower portions and a swing arm pivotally connected to the lower portion of said frame;
  - said swing arm comprising a pair of arms rotatably supporting a wheel about a horizontal axis generally at the end of said swing arm;
  - the pivotal mounting of said arm to said frame being about a generally horizontal axis whereby said wheel is both rotatable about its own horizontal axis and deflectable in a generally vertical direction about the axis of said swing arm;
  - spring means having a first end pivotally secured to said frame;
  - a link member including an intermediate point pivotally mounted on said frame about an axis, parallel to the axis of said swing arm at a point spaced therefrom;
  - pivotal connection means between said link member and the second end of said spring;
  - a bar pivotally connected at one end to said swing arm and at the opposite end to said link member at a position spaced from said spring connection;
  - said spring, bar, swing arm and link connected whereby deflection of said swing arm displaces said bar and rotates said link member to compress said spring.
9. The combination in accordance with claim 1 wherein said assembly provides a rising spring rate as a function of deflection of said swing arm.

Figure 2 of the '332 patent specification is illustrative:



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As the rear wheel is deflected upward by bumps in the terrain, the swing arm (32) that is pivotally connected at (34) to the motorcycle frame (21) rotates upward, pushing the compression rod (41) into the bell crank (42) that is pivotally secured (31) at its intermediate point to the motorcycle frame. The bell crank rotates on its pivot (31) and compresses, downward against the frame, a spring (46) that is pivotally connected at one end (45) to the bell crank, and at its other end (52) to the motorcycle frame. The interaction of these interconnected parts increases the force on the spring, increasing the rate of resistance to deflection of the wheel with increased movement of the wheel. This varying resistance is the "rising spring rate" of claim 9, and is illustrated in Figure 5 of the '332 patent:



### ***The Contact with Suzuki***

In October 1978 Richardson entered into a one year Option and License Agreement with the Suzuki Motor Co., Ltd. of Japan ("Suzuki").

The Agreement gave Suzuki the exclusive right to test and evaluate Richardson's suspension, and the exclusive option to acquire an exclusive license to the '332 patent and Richardson's "proprietary technical information, know-how, inventions, and use data", collectively defined in the Agreement as the "Licensed Rights."

The Agreement required Richardson to disclose to Suzuki all technical information, know-how, inventions, use data and design specifications for his suspension, that he possessed or that he acquired during the option period. Suzuki agreed to preserve all such information in confidence, and not to use any of it "for any purpose other than to evaluate for commercial feasibility of manufacture and marketing during the Option Period." Suzuki agreed that this obligation of confidence continued if Suzuki did not exercise the option. Excepted from the confidentiality obligation was all information previously known to Suzuki or at any time generally known to the public.

The agreement required Richardson to make prototypes of his suspension system for Suzuki's evaluation. Richardson installed his suspension in Suzuki's sample 1978 and 1979 model production motorcycles, and disclosed to Suzuki the technical information and know-how that he possessed, including improvements and other information that he developed during this period. He met frequently with Suzuki engineers and other Suzuki personnel in the United States and in Japan to communicate this information and generally to improve performance and to facilitate testing and evaluation.

There was testimony at trial of initial incredulity on the part of Suzuki engineers concerning Richardson's suspension, of Suzuki's past failures in designing a suspension with the desired characteristics, and of Suzuki's favorable response to the performance of Richardson's suspension. The evidence included internal Suzuki documents made while Suzuki was testing Richardson's suspension, stating that it would "take a long time", perhaps three years, for Suzuki to develop a satisfactory suspension.

In early 1979 Richardson and a colleague Cazort conceived an improvement in the linkage-generated rising rate suspension, which they called the "Alternate Shock Mount" and which they disclosed to Suzuki, accompanied by drawings and blueprints made by Cazort. The difference from the structure described in the '332 patent is that in the Alternate Shock Mount the lower end of the spring is pivotally secured to the swing arm which is pivotally secured to the frame, instead of being pivotally secured directly to the frame, resulting in increased strength.

In May 1979 Richardson's first prototype for Suzuki, wherein Richardson, aided by Cazort, installed his

suspension in a Suzuki 1978 production model, was successfully tested in Japan. Testimony at trial included statements attributed to Suzuki's test riders that they could see the bumps but not feel

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them, and other commentary evidencing a highly favorable reaction to Richardson's suspension. It was a stipulated fact that after these tests Suzuki made the decision to place the linkage-generated rising rate suspension system into production, and started development work for this purpose. On October 16, 1979 Suzuki filed a patent application in Japan. The corresponding United States patent, filed on October 8, 1980, claims the Alternate Shock Mount suspension as disclosed by Richardson, and also claims a modification made by Suzuki called the "criss-cross". Suzuki named two of its engineers, Hirohide Tamaki and Manabu Suzuki, as the inventors. Suzuki twice requested and was granted one-month extensions of its Option and License Agreement with Richardson. In December 1979 Suzuki informed Richardson that it would not exercise the option. In March 1980 Suzuki began competitive racing in the United States of Suzuki motorcycles using the Alternate Shock Mount suspension, which Suzuki named the "Full Floater". Suzuki met with marked racing success, the Full Floater receiving favorable publicity and high acclaim from the public. Extensive advertising was directed to the Full Floater rising rate suspension. The product achieved widespread commercial success. Suzuki denied any obligation to Richardson.

### ***Litigation***

Richardson brought suit against Suzuki (Japan) and the U.S. Suzuki Motor Corporation in California state court, and was granted a preliminary injunction restraining the Suzuki companies from breach of the Option and License Agreement and requiring them to comply with the confidentiality terms thereof. At Suzuki's request the state court declined to enforce the injunction after U.S. Suzuki sued Richardson in federal court, seeking a declaratory judgment of invalidity and non-infringement of Richardson's '332 patent.

In 1982 Richardson filed a patent infringement action against the Suzuki companies and others. (Only the Suzuki companies remain as parties.) Richardson reasserted the state claims of breach of contract, breach of implied covenant of good faith and fair dealing, misappropriation of trade secrets, and fraud, and among other relief requested assignment of the patents obtained by Suzuki on the Alternate Shock Mount. Suzuki counterclaimed for fraud and breach of contract by Richardson, based on asserted invalidity of the '332 patent.

The federal actions were consolidated and tried to a jury. After forty-seven days of a two-part trial the jury gave special verdicts on issues of liability and damages. The district court entered final judgment under Fed.R.Civ.P. 54(b) on the jury verdicts that the '332 patent was not invalid and was infringed by Suzuki, that nine of Richardson's eleven asserted trade secrets were not trade secrets, and that Richardson was not entitled to assignment of the Tamaki/Suzuki patents on the Alternate Shock Mount. The court also entered final judgment on the jury verdicts of damages for patent infringement and for Suzuki's use of certain of Richardson's information that the jury found were not trade secrets. The court denied prejudgment interest and attorney fees, and refused to grant an injunction.

The district court denied most of the parties' post-trial motions, but granted Suzuki's motion for a new trial on three issues that the jury had decided in favor of Richardson, upholding two of the eleven asserted trade secrets, finding fraud on the part of Suzuki, and assessing damages for fraud. The district court then entered a supplemental final judgment for immediate appeal of the issues that the court intended to retry, and certified three specific questions on these and related issues.

I

### ***Validity of Richardson's '332 Patent***

Suzuki asserts on appeal the invalidity of claim 9 on grounds of anticipation (35 U.S.C. §102) and

obviousness (35 U.S.C. §103). 3 The district court, stating that questions of patent validity must be decided by the court, told the jury that its verdicts on this issue were advisory. Nevertheless the court duly entered the jury verdicts, including the answer YES to the question: "Under the facts and the law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?" The court entertained, and denied, post-trial motions for judgment n.o.v. and for a new trial on the question of validity. The court also independently decided the question, upholding validity of the '332 patent. The record provided to us doesn't show the origin of this discredited procedure of advisory

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jury verdicts, or whether either party objected. In *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 895 n.5, 221 USPQ 669, 674 n.5 (Fed. Cir.), *cert. denied*, 469 U.S. 857 [ 225 USPQ 792 ] (1984), we observed that:

The view suggested in *Sarkisian [v. Winn-Proof Corp.]*, 688 F.2d 647, 651, (9th Cir. 1982), *cert. denied*, 460 U.S. 1052 (1983)], that a jury verdict on nonobviousness is at best advisory, would make charades of motions for directed verdict or JNOV under Fed.R.Civ.P. 50 in patent cases. These motions apply only to *binding* jury verdicts. . . .

Moreover, use of an advisory jury is limited to actions not triable of right by a jury.

(emphasis in original, citations omitted). In a similar circumstance wherein the trial court and the jury independently decided the same jury question (in that case the question of willfulness of infringement) we remarked that "[a]ll fact findings of a jury are non-advisory, unless made in an area expressly removed from jury verdict." *Shiley, Inc. v. Bentley Laboratories, Inc.*, 794 F.2d 1561, 1568, 230 USPQ 112, 115 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1087 (1987).

[1] It is established that the jury may decide the questions of anticipation and obviousness, either as separate special verdicts or en route to a verdict on the question of validity, which may also be decided by the jury. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1547, 220 USPQ 193, 197 (Fed. Cir. 1983):

No warrant appears for distinguishing the submission of legal questions to a jury in patent cases from such submissions routinely made in other types of cases. So long as the Seventh Amendment stands, the right to a jury trial should not be rationed, nor should particular issues in particular types of cases be treated differently from similar issues in other types of cases.

See also, e.g., *Vieau v. Japax, Inc.*, 823 F.2d 1510, 1515, 3 USPQ2d 1094, 1098 (Fed. Cir. 1987); *Verdegaal Brothers Inc. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1052 (Fed. Cir.), *cert. denied*, 108 S.Ct. 95 (1987); *Data Line Corp. v. Micro Technologies, Inc.*, 813 F.2d 1196, 1200, 1 USPQ2d 2052, 2054 (Fed. Cir. 1987); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986); *DMI, Inc. v. Deere & Co.*, 802 F.2d 421, 425-27, 231 USPQ 276, 279-80 (Fed. Cir. 1986); *Mainland Industries, Inc. v. Standal's Patents Ltd.*, 799 F.2d 746, 747-48, 230 USPQ 772, 773 (Fed. Cir. 1986); *Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc.*, 750 F.2d 1552, 1560, 224 USPQ 259, 263 (Fed. Cir. 1984); *Quaker City Gear Works, Inc. v. Skil Corp.*, 747 F.2d 1446, 1454-55, 223 USPQ 1161, 1165-66 (Fed. Cir. 1984), *cert. denied*, 471 U.S. 1136 (1985); *Weinar v. Rollform Inc.*, 744 F.2d 797, 805, 223 USPQ 369, 372 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1084 (1985); *Perkin-Elmer Corp.*, 732 F.2d at 894-95, 221 USPQ at 674; *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed. Cir. 1984); *Railroad Dynamics, Inc. v. A. Stucki Company*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 935 (Fed. Cir.), *cert. denied*, 469 U.S. 871 [ 224 USPQ 520 ] (1984); *White v. Jeffrey Mining Mach. Co.*, 723 F.2d 1553, 1558, 220 USPQ 703, 705 (Fed. Cir. 1983) ("Submission of such a question of law [obviousness] to a jury, accompanied by appropriate instructions, is proper."), *cert. denied*, 469 U.S. 825 (1984). See generally, H.T. Markey in *On Simplifying Patent Trials*, 116 F.R.D. 369, 370 (1987) ("There is neither reason nor authority for employing in a patent trial procedures and practices different from those employed in any other civil trial. Indeed, reason and authority mandate the contrary.")

Although the district court and the jury reached the same result, the standards by which appellate courts

review the judgment differ, depending on whether it arose from a jury or a bench trial. *District of Columbia v. Pace*, 320 U.S. 698, 701 (1944) ("findings of fact by an equity court and the verdict of a jury have from time immemorial been subject to different rules of finality"). When the judgment arises from a jury verdict, the reviewing court applies the reasonable jury/substantial evidence standard: a standard that gives greater deference to the judgment simply because appellate review is more limited, compared with review of a trial judge's decision. *Id.* at 702. As summarized in *Lavender v. Kurn*, 327 U.S. 645, 653 (1946), "the appellate court's function is exhausted when that evidentiary basis [of the jury's verdict] becomes apparent, it being immaterial that the court might draw a contrary inference or feel that another conclusion is more reasonable." See generally M.B. Louis, *Allocating Adjudicative Decision Making Authority Between the Trial and Appellate Levels: A Unified View of the Scope of Review, The Judge/Jury Question, and Procedural Discretion*, 64 N.C. L.Rev. 993 (1986). The parties do not take a position on the district court's procedure, but appear to recognize that the issue of validity was properly for jury determination, for neither party refers to the district court's explanation of its

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independent determination of the question of obviousness.

In the interest of reaching an end to this protracted litigation, we have reviewed the judgment on the terms on which it reaches us. We have determined first whether Suzuki met its burden of showing on appeal that no reasonable jury could have reached the verdict of "valid" on the evidence before it. *Allen Organ Co. v. Kimball Int'l, Inc.*, 839 F.2d 1556, 1566, 5 USPQ2d 1769, 1777 (Fed. Cir.), *cert. denied*, 109 S.Ct. 132 (1988); *DMI, Inc. v. Deere & Co.*, 802 F.2d 421, 425, 231 USPQ 276, 278 (Fed. Cir. 1986); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 618-19, 225 USPQ 634, 636 (Fed. Cir.), *cert. dismissed*, 474 U.S. 976 (1985). Then, on the premise that the parties may have waived their right to a jury trial on this question by failure to object to the district court's procedure, we have considered whether the district court's independent judgment of validity may be sustained, on the standards applicable thereto. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir.) (obviousness determination in bench trial reviewed as a question of law based on underlying facts), *cert. denied*, 107 S.Ct. 2187 (1987).

The court correctly instructed the jury that invalidity must be proved by clear and convincing evidence, referring to the presumption of validity. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 674; *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 756 F.2d 1556, 1559, 225 USPQ 253, 255 (Fed. Cir. 1985); *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 771 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [ 224 USPQ 520 ] (1984).

### **A. Anticipation**

The district court correctly instructed the jury that an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771-72, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [ 224 USPQ 520 ] (1984). The identical invention must be shown in as complete detail as is contained in the patent claim. *Jamesbury Corp.*, 756 F.2d at 1560, 225 USPQ at 256; *Connell*, 722 F.2d at 1548, 220 USPQ at 198.

As prior art, Suzuki relied on the motorcycle suspensions described in certain patents to Downs and Warner, and on the race car wheel suspensions described for Tyrrell and McLaren race cars in two Road and Track magazine articles. Witnesses explained to the jury the similarities and differences between the invention of the '322 patent and each prior art reference. For example, the Downs suspension has a spring element that is rigidly attached to the motorcycle frame and does not pivot as is required by claim 9 of the '322 patent. The Warner reference shows a suspension having a bell crank that is pivotally mounted to the motorcycle frame but not at an intermediate point, whereas Richardson requires a mid-

point pivot of the bell crank to the frame. Neither Downs nor Warner describes a rising rate. The magazine articles describe a four wheel racing car suspension system having a linkage-generated variable rising rate incorporating a bell crank, but instead of the swing arm of Richardson's motorcycle suspension, the race car systems use an A-shaped arm mounted to the side of an upright wheel; and the bell crank and linkage in the race car system is located beside the wheel, rather than in front of the wheel as in Richardson's motorcycle system.

Witnesses testified that rising rate in motorcycles had previously been obtained only by progressively wound springs and gas operated shock absorbers. Suzuki argued that rising rate is inherent in the Downs and Warner motorcycle suspensions and expressly described for race cars in the magazine articles, and also that rising rate is merely a statement of function, and thus should not be a basis for distinction from the prior art.

The jury found that Downs did not "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent". For the Warner reference, the jury could not reach a unanimous verdict on this same question, but answered NO to the question whether "the respective elements of Warner function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results". The jury found that the race car suspensions did "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent", but did not reach a unanimous verdict as to whether they "function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results."

The jury had erroneously been instructed that anticipation may be shown by equivalents, a legal theory that is pertinent to obviousness under Section 103, not to antici

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pation under Section 102. *Lewmar Marine, Inc. v. Bariant, Inc.* , 872 F.2d 744, 747-48, 3 USPQ2d 1766, 1768 (Fed. Cir. 1987), *cert. denied* , 108 S.Ct. 702 (1988); *Connell* , 722 F.2d at 1548, 220 USPQ at 198. The jury requested a definition of "equivalent" during its deliberations, and was given the Webster's dictionary definition "corresponding or virtually identical, especially in effect or function." This narrow definition, which does not accord with that of *Graver Tank & Mfg. Co. v. Linde Air Products Co.* , 339 U.S. 605, 608 [ 85 USPQ 328, 330] (1950), may have minimized the legal error in the instructions. In any event, the erroneous inclusion of equivalents in the anticipation inquiry favored Suzuki. The jury nonetheless answered YES to the special verdict: "Under the facts and law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?"

[2] On the totality of the evidence and in light of the jury instructions and answers, we conclude that a reasonable jury could have found that the patent was not invalid on grounds of anticipation. *Perkin-Elmer Corp.* , 732 F.2d at 894, 221 USPQ at 673-74 (review of presumed jury finding that anticipation not proved, based on jury verdict of validity).

Reviewing the analysis and decision of the district court, based on the same prior art, we discern no clear error in the court's conclusion that claim 9 was not invalid.

We affirm that claim 9 was not proved invalid on the ground of anticipation.

### **B. Obviousness**

The issue of obviousness was vigorously litigated, Suzuki relying on the same Downs and Warner patents and magazine articles. The record shows that there was extensive testimony concerning the differences between Richardson's suspension and the prior art. Suzuki argued at trial, and repeats on this appeal, that these differences are trivial mechanical expedients.

The jury, among its special verdicts on the *Graham* factors, found that a person of ordinary skill in the pertinent art could be any of: (1) a motorcycle mechanic without formal technical education, (2) a person with experience in working on suspension systems for racing automobiles, but without formal technical training, (3) suspension system instructors, (4) professional motorcycle riders, and (5) someone possessing above-average mechanical skills. Suzuki argues that such a person is of generally

high mechanical skill, and to such a person Richardson's rising rate motorcycle suspension would have been an obvious "adaption" of the race car suspension systems, which "suggests itself quite plainly, since Downs and Warner incorporate bell cranks in their respective suspensions."

The jury was unable to reach a unanimous verdict on the question of whether a person of the level of skill found by the jury, presented with the problem and being familiar with all the prior art including these four specific references, but unaware of Richardson's device, would be "led to do" what Richardson did. In response to the ultimate question, as we have observed, the jury reached the unanimous verdict that "Under the facts and law as you believe that you understand them", claim 9 was "valid". The district court entered judgment on the jury verdicts, independently held the patent valid, and denied Suzuki's motions for judgment n.o.v. and for a new trial on the issue of validity.

The question for the jury was whether the challenger met the burden of proving invalidity by clear and convincing evidence; and the question on review is whether reasonable jurors could have concluded that the challenger failed to meet that burden. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986); *Perkin-Elmer Corp.*, 732 F.2d at 894-95, 221 USPQ at 674. The jury's lack of unanimity on certain special verdicts can reasonably be taken to mean, as the district court held, that invalidity had not been proved by clear and convincing evidence.

[3] Our review shows that there was substantial evidence on which reasonable jurors could have concluded that claim 9 had not been proved invalid for obviousness, and thus reached the verdict of "valid". Although the district court erred in its belief that obviousness could only be presented to the jury for an advisory verdict, we may view the court's agreement with the jury verdict of validity as supporting the court's denial of Suzuki's post-trial motions for judgment n.o.v. and for a new trial. *Perkin-Elmer Corp.*, 732 F.2d at 895, 221 USPQ at 674-75. However it is viewed procedurally, no reversible error has been shown in the court's conclusion that obviousness had not been proved and that claim 9 was not invalid.

The judgment of validity is affirmed.

## II

### *Infringement*

Richardson bore the burden of proving infringement by a preponderance of the evi

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dence. The district court correctly stated that the jury was the finder of the fact of infringement. The jury rendered special verdicts as to the Suzuki motorcycles before it, Model M having the Richardson/Cazort Alternate Shock Mount and Model C having the "criss-cross" connection added by Suzuki, as follows:

9(a). Do defendant Suzuki's motorcycles of the Model M type . . . infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

9(b). Do defendant Suzuki's motorcycles of the Model C type . . . infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

In subparts 9(a)(2) and 9(b)(2) of the special verdict the jury answered YES to the question whether the Suzuki motorcycles produce substantially the same rising rate as taught in Richardson's patent.

The principal question on appeal is the meaning and effect of the jury answers to subparts (1) of the special verdict, which were directed "in particular" to the Alternate Shock Mount and the criss-cross modifications:

9(a)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, bearing in mind that the bottom of the spring in the former is affixed to the swing arm rather than to the frame?

Answer: NO

9(b)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, in light of the "criss-cross"

of the connecting rods and the bell crank in the defendant's model, as well as the spring attachment to the swing arm, as compared with the plaintiff's Claim 9?

Answer: NO

The district court entered judgment of infringement in favor of Richardson and denied post-trial motions by both sides, including a motion by Richardson to reopen the record in order to present evidence on the doctrine of equivalents. The district court stated that the jury verdicts mean that "infringement is limited to 'rising rate' " and that the Suzuki and Richardson linkages are not equivalent.

Suzuki argues that special verdicts 9(a)(1) and 9(b)(1) require judgment of non-infringement; or, as a minimum, that these verdicts are inconsistent with the verdicts of infringement in 9(a) and 9(b), such that a new trial is required of the entire issue. Richardson states that the verdicts can be understood, when viewed in light of the jury instructions, in a way that supports the judgments of infringement.

Suzuki did not request a new trial on the basis of inconsistent verdicts at the time the judgments were entered, while Richardson moved, unsuccessfully, to amend or delete verdicts 9(a)(1) and 9(b)(1). Each party asserts that any inconsistency should be resolved in its favor.

The Ninth Circuit, in accordance with the general rule, requires trial and appellate courts to seek reconciliation of apparently inconsistent verdicts:

When faced with a claim that verdicts are inconsistent, the court must search for a reasonable way to read the verdicts as expressing a coherent view of the case, and must exhaust this effort before it is free to disregard the jury's verdict and remand the case for a new trial.

*Toner v. Lederle Laboratories* , 828 F.2d 510, 512 (9th Cir. 1987), *cert. denied* , 108 S.Ct. 1122 (1988) (citing *Gallick v. Baltimore & Ohio R.R.* , 372 U.S. 108, 119 (1963), also citing *Atlantic & Gulf Stevedores, Inc. v. Ellerman Lines, Ltd.* , 369 U.S. 355, 364 (1962) and *Blanton v. Mobil Oil Corp.* , 721 F.2d 1207, 1213, (9th Cir. 1983), *cert. denied* , 471 U.S. 1007 (1985)). *See also Allen Organ Co.* , 839 F.2d at 1563, 5 USPQ2d at 1775 (the appellate court must make every effort to harmonize the jury's answers).

The district court did not find the special verdicts inconsistent, apparently in the belief that the jury limited infringement to the rising rate provision of claim 9 but not the other claim clauses. This accords with the court's statement to the jury that the infringement was "minor" because it was limited to the rising rate. This interpretation pleased neither party. If we have correctly understood it, it is incorrect as a matter of law.

"We are bound to find the special verdicts consistent if we can do so under a fair reading of them."

*Toner* , 828 F.2d at 512. A fair reading of the special verdicts results from simply applying the rule that "[t]he consistency of the jury verdicts must be considered in light of the judge's instructions to the jury".

*Toner* , 828 F.2d at 512. The instructions on infringement, and the specific questions asked by special verdict, were designed to resolve the issues raised at trial. There was testimony on both sides of Suzuki's assertion that its suspension was not the same as Richardson's because it produced a different rising rate. We referred *supra* to special verdicts 9(a)(2) and 9(b)(2):

9(a)(2). Does defendant's Model M produce rising rate substantially the same as

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the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

9(b)(2). Does defendant's Model C produce rising rate substantially the same as the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

Another special verdict in the infringement section asked the jury:

11. Does claim 9 of the Richardson Patent describe the invention of a rising rate in terms of what the invention will do rather than in terms of physical arrangement?

Answer: NO

We conclude that the answer "yes, with the rising rate" in verdicts 9(a) and 9(b) is the jury's response to



Suzuki's argument, rather than as a finding that only the rising rate claim limitation, and no other, is embodied in the Suzuki suspensions.

We discern no support in the record for the district court's conclusion that verdicts 9(a) and 9(b) meant that the rising rate was the only area of infringement. Structure corresponding to every element of every clause of claims 1 and 9 was identified by witnesses as embodied in the accused motorcycles. There was no real dispute that of the nine or eleven elements in these claims (depending on how counted), all but one were literally present. The dispute centered on one element, the attachment of the spring in the claim clause "spring means having a first end pivotally secured to said frame", since this was the clause affected by the modifications of the Alternate Shock Mount and the criss-cross. In the Alternate Shock Mount, as we have discussed, the spring is pivotally secured to a swing arm that in turn is pivotally secured to the frame, instead of being pivotally secured directly to the frame as is shown in the '332 specification.

Richardson argues that the spring can be either directly or indirectly pivotally secured to the frame, without avoiding literal infringement of the claim. Richardson alternatively argues that on a correct definition of the doctrine of equivalents, citing *Graver Tank*, 339 U.S. at 608 [ 85 USPQ at 330], these securements are equivalent because the structures are substantially the same and perform substantially the same function in the same way.

The jury had been given the dictionary definition that "equivalent" means "corresponding or virtually identical, especially in effect or function". This definition was reinforced by the phrasing of verdicts 9(a)(1) and 9(b)(1), wherein the question itself instructed the jury on the difference between the linkages, while remaining silent on the similarities.

This presentation was highly prejudicial. Indeed, these verdicts well illustrate the truism that the way a question is asked can direct the answer. "The decision to submit interrogatories, and the precise language in which they are couched, can have an untoward effect on a verdict, if certain elements of the trial or the evidence are thereby overly emphasized in the jury's mind." *Weinar v. Rollform Inc.*, 744 F.2d 797, 809, 223 USPQ 369, 376 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1084 (1985).

Further, and equally prejudicial, special verdicts 9(a)(1) and 9(b)(1) isolated this specific claim element so that it was removed from the perspective that is obtained only when the claimed invention is viewed in its entirety. *See, e.g.*, *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363, 219 USPQ 473, 482 (Fed. Cir. 1983). We recently reemphasized in *United States Steel Corp. v. Phillips Petroleum Co.*, No. 88-1166, -1167, -1168, -1169, -1170, -1171, slip op. at 13-14 [ 9 USPQ2d 1461 ] (Fed. Cir. Jan. 10, 1989), in discussing *Graver Tank*, that there is no error in considering "the principle of the claimed invention".

A device that embodies improvements on a claimed structure does not automatically avoid the reach of the claim. *See, e.g.*, *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1580, 224 USPQ 409, 417 (Fed. Cir. 1984) (separately patentable improvement may also be an equivalent under the doctrine of equivalents); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 703 218 USPQ 965 (Fed. Cir. 1983) (infringement not avoided "merely by adding elements"), *cert. denied*, 464 U.S. 1042 (1984). Each case must be decided on its particular facts, viewing the changes in the accused structure in light of the claimed invention. *See generally Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934-35, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987), *cert. denied*, 108 S.Ct. 1226 (1988), and *cert. denied*, 108 S.Ct. 1474 (1988); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1569-70, 231 USPQ 833, 840 (Fed. Cir. 1986), *reh'g denied*, 846 F.2d 1369, 6 USPQ2d 1886 (Fed. Cir. 1988).

[4] We conclude that the jury verdicts, viewed in light of the instructions, held that the Suzuki motorcycles with a rising rate infringed claim 9. We also conclude that on correct instructions no reasonable jury could have found that the claimed invention and the accused structures are not equivalent, on the established facts of record, applying the

correct law of *Graver Tank*. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252 (1986) ("The mere existence of a scintilla of evidence in support of the plaintiff's position will be insufficient; there must be evidence on which the jury could reasonably find for the plaintiff."); *Pullman-Standard v. Swint*, 456 U.S. 273, 291-92 (1982) ("where findings [by the district court] are infirm because of an erroneous view of the law, a remand is the proper course unless the record permits only one resolution of the factual issue"); *Dana Corp. v. IPC Limited Partnership*, 860 F.2d 415, 419, 8 USPQ2d 1692, 1696 (Fed. Cir. 1988) (when there are sufficient established facts of record, appellate court has discretion to determine the merits of JNOV motion.)

The jury verdicts of infringement are supported by substantial evidence, and are upheld. The judgment of infringement is affirmed.

### III

#### ***Damages for Patent Infringement***

As damages for patent infringement the jury assessed a royalty of fifty cents per motorcycle. Richardson states that this royalty is unreasonably low, and resulted from erroneous and prejudicial jury instructions. We review the award on the reasonable jury/substantial evidence standard. *Shatterproof Glass Corp.*, 758 F.2d at 627-28, 225 USPQ at 643-44.

The court told the jury: "Now, I will sustain, I will uphold your verdict [of infringement], but in determining damages and determining any royalty, it seems to me that you must consider that the infringement was a relatively minor infringement." This instruction derived, as we have discussed, from the erroneous interpretation of the verdicts as limited to the "rising rate" clause. We must determine whether this erroneous instruction was prejudicial to the jury's assessment of damages. The Ninth Circuit has stated that "we will reverse a judgment because of a mistake in jury instructions only if the error was prejudicial." *Smiddy v. Varney*, 665 F.2d 261, 265 (9th Cir. 1981), *cert. denied*, 459 U.S. 829 (1982).

35 U.S.C. §284 provides that damages shall be "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer". *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d 1568, 1574, 7 USPQ2d 1606,

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

In re Gordon et al. (CA FC) 221 USPQ 1125 (5/10/1984)

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In re Gordon et al. (CA FC) 221 USPQ 1125

**In re Gordon et al.**

**U.S. Court of Appeals Federal Circuit**  
**221 USPQ 1125**

**Decided May 10, 1984**

**No. 83-1281**

**Headnotes**

**PATENTS**

**1. Patentability/Validity -- Obviousness -- References and claims as whole (§ 115.0904)**

Question is not whether patentable distinction is created by viewing prior art apparatus from one direction and claimed apparatus from another, but whether it would have been obvious from fair reading of prior art reference as whole to turn prior art apparatus upside down; mere fact that prior art could be modified by turning apparatus upside down does not make modification obvious unless prior art suggested desirability of modification.

**Particular patents -- Blood Filters**

Gordon and Sutherland, Blood Filter Assembly, Rejection of claims 1-3 and 5-7 reversed.

**Case History and Disposition:**

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Application for patent of Lucas S. Gordon and Karl M. Sutherland, Serial No. 124,312, filed Feb. 25, 1980. From decision rejecting claims 1-3 and 5-7, applicants appeal. Reversed.

**Attorneys:**

James W. Geriak, Los Angeles, Calif. (Bradford J. Duft, Los Angeles, Calif., on the brief) for appellants.

John F. Pitrelli (Joseph F. Nakamura and John W. Dewhurst, on the brief) for Patent and Trademark Office.

**Judge:**

Before Bennett and Miller, Circuit Judges and Skelton, Senior Circuit Judge.

**Opinion Text****Opinion By:**

Miller, Circuit Judge.

This appeal is from the decision of the United States Patent and Trademark Office ("PTO") Board of Appeals ("board") affirming the examiner's rejection of appellants' claims 1 1-3 and 5-7 as unpatentable under 35 U.S.C. §103. We reverse.

**The Invention**

Appellants claim a "blood filter assembly" used during surgery and other medical procedures involving the handling of blood to remove clots, bone debris, tissue, or other foreign materials from blood before it is returned to a patient's body. Unlike blood filter assemblies widely used in the prior art, the device of the present invention permits both entry of the blood into, and ultimate discharge of the blood out of, the *bottom* end of the filter assembly, as shown below. 2

*Tabular, graphic, or textual material set at this point is not available. Please consult hard copy or call BNA PLUS at 1-800-452-7773 or 202-452-4323.*

The blood filter assembly comprises a shell 1 provided with blood inlet 3 and blood outlet 4. Between the blood inlet and the blood outlet is filter medium 6 positioned within the filter medium core 7. The location of blood inlet 3 is such that the incoming blood is directed along a spirally upward path by the inner wall of the shell. Further, the location of the blood inlet at the bottom end of the filter assembly facilitates the removal of gas bubbles by allowing them to rise upwardly out of the blood. The gas bubbles so removed are released from the blood filter assembly by means of a gas vent 5 located in the region of the top end of the assembly.

Independent claim 1, from which the other appealed claims depend, is illustrative:

Blood filter assembly comprising:

- a. a shell having a first top end and a second bottom end,
- b. a blood inlet located in the region of said bottom end and opening into said bottom end,
- c. a blood outlet located in the region of said bottom end,
- d. a gas vent located in the region of said top end, and
- e. a blood filter medium located between said blood inlet and said blood outlet, said blood inlet being located and configured in a manner capable of directing incoming blood in a generally spiral path within said shell.

Claims 2, 3, and 5-7 further define the shape of the shell, the shape of the filter medium, and the nature of the material used as the filter medium.

**Prior Art**

The sole reference relied upon by the board is United States Patent No. 1,175,948, issued March 21, 1916, to French. French discloses a liquid strainer for removing dirt and water from gasoline and other light oils. As shown below, the inlet 4 and outlet 5 of the French device are both at the *top* end of the device.

*Tabular, graphic, or textual material set at this point is not available. Please consult hard copy or call BNA PLUS at 1-800-452-7773 or 202-452-4323.*

A continuous helical tooth or thread 8 is formed integral with the inner wall of shell 1 and imparts to the incoming liquid a whirling motion, which gives the liquid a scouring action to help clean the surface of a metal screen filter 21 and guides unwanted dirt and water downwardly into a pocket 9 in the bottom of the shell. A pair of shelves 10 and 11, projecting inwardly and downwardly from the inner wall of the shell, further assists the entrance of dirt and water into the pocket 9 and prevents their being drawn back into the main chamber 12. The reference expressly states, "gravity assists in the separation of heavier oils or water." A pet-cock 13, projecting vertically downward from the bottom of the pocket is used to remove the collected dirt and water periodically. The top of the liquid strainer is completely closed by gland 3 except for the inlet and outlet openings.

### Board Opinion

The board held that the appealed claims were drawn to an apparatus which "would have at least been rendered *prima facie* obvious to one of ordinary skill in the art by the apparatus disclosed in French." The board's reasoning was that it would have been obvious to turn the French device upside down to have both the inlet and outlet at the bottom, rather than at the top; and to employ French's "pet-cock" as the claimed "gas vent." In the board's opinion, no patentable distinction was created by viewing French's apparatus from one direction and the claimed apparatus from another.

### ANALYSIS

[1] We are persuaded that the board erred in its conclusion of *prima facie* obviousness. The question is not whether a patentable distinction is created by viewing a prior art apparatus from one direction and a claimed apparatus from another, but, rather, whether it would have been obvious from a fair reading of the prior art reference as a whole to turn the prior art apparatus upside down. French teaches a liquid strainer which relies, at least in part, upon the assistance of gravity to separate undesired dirt and water from gasoline and other light oils. Therefore, it is not seen that French would have provided any motivation to one of ordinary skill in the art to employ the French apparatus in an upside down orientation. The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification. See *Carl Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782, 787, 218 USPQ 698, 702 (Fed. Cir. 1983), and *In re Sernaker*, 702 F.2d 989, 995-96, 217 USPQ 1, 6-7 (Fed. Cir. 1983), both citing *In re Imperato*, 486 F.2d 585, 587, 179 USPQ 730, 732 (CCPA 1973).

Indeed, if the French apparatus were turned upside down, it would be rendered inoperable for its intended purpose. The gasoline to be filtered would be trapped in pocket 9, and the water French seeks to separate would flow freely out of the outlet 5. Further, unwanted dirt would build up in the space between the wall of shell 1 and screen 21, so that, in time, screen 21 would become clogged unless a drain valve, such as pet-cock 13, were re-introduced at the new "bottom" of the apparatus. See *In re Schulpen*, 390 F.2d 1009, 1013, 157 USPQ 52, 55 (CCPA 1968). In effect, French teaches away from the board's proposed modification.

Because the PTO has failed to establish a *prima facie* case of obviousness, the rejection of claims 1-3 and 5-7 as unpatentable under 35 U.S.C. §103 must be *reversed*. 3

Reversed

### Footnotes

Footnote 1. In application Serial No. 124,312, filed February 25, 1980, for a "Blood Filter."

Footnote 2. Extraneous numbers have been removed from this and the subsequent drawing for clarification.

Footnote 3. Because our holding that the PTO has failed to establish a prima facie case is dispositive, it is unnecessary to reach other arguments raised by appellants.

**- End of Case -**

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**FULL TEXT OF CASES (USPQ FIRST SERIES)**  
In re RATTI, 123 USPQ 349 (CCPA 1959)

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In re RATTI, 123 USPQ 349 (CCPA 1959)

**In re RATTI****(CCPA)****123 USPQ 349****Decided Sept. 30, 1959****Appl. No. 6452****U.S. Court of Customs and Patent Appeals****Headnotes****PATENTS****1. Evidence—Judicial notice (§ 36.20)**

It is common knowledge that resilient deformable materials such as natural or synthetic rubber are incompressible, i.e., while they may be deformed, this can occur only if design and mounting of part permits resilient material to change its shape in response to applied forces.

**2. Patentability — Anticipation — Combining references (§ 51.205)****Patentability — Anticipation — Modifying references (§ 51.217)**

Combination of J patent with C patent is not proper ground for rejection of claims since combination would require substantial reconstruction and redesign of elements shown in C as well as change in basic principles under which C construction was designed to operate; once applicant taught how this could be done, redesign may, by hindsight, seem to be obvious to one having ordinary skills in art, but, when viewed as of time applicant's invention was made, and without benefit of applicant's disclosure, court finds nothing in art of record which suggests applicant's novel device.

**3. Court of Customs and Patent Appeals—Issues determined—Ex parte patent cases (§ 28.203)**

Rejection reversed by Board is not before court.

**4. Patentability—In general (§ 51.01)**

Novelty alone is not enough for patentability.

**5. Patent grant—In general —(§ 50.01)**

Applicant is entitled to patent, under the statutes, unless one of the prohibitory provisions of statutes applies.

**6. Patentability—In general —(§ 51.01)****Patentability—Evidence of—In general —(§ 51.451)****Patentability—Utility —(§ 51.75)**

Statutory requirements for patentability are novelty, usefulness, and unobviousness, as provided in 35 U.S.C. 101, 102, and 103; while proof that invention is better or possesses advantages may be persuasive of existence of any one or all of the requirements, and hence be indicative of patentability, Congress has not made such proof a prerequisite to patentability; moreover, Congress has never required that each and every patentable invention involve "progress" in the sense that it must possess some definite advantage over prior art; hence, it is improper to reject claim on ground that it does not possess some definite advantage over prior art; while R.S. 4893 may be said to have given Commissioner some discretion in refusing to grant patent on an otherwise patentable invention unless "the same is sufficiently useful and important," Congress removed this provision from new 35 U.S.C. 131; this is further indication that it is intent of Congress that patentability be determined solely by sections 101, 102, and 103.

**7. Court of Customs and Patent Appeals—In general —(§ 28.01)****Pleading and practice in Patent Office—In general —(§ 54.1)**

It is duty of Patent Office and Court of Customs and Patent Appeals to apply law as Congress wrote it.

**Particular patents—Oil Seal**

Ratti, Oil Seal, claims 1, 4, 7, and 10 of application allowed.

**Case History and Disposition:**

Page 349

Appeal from Board of Appeals of the Patent Office.

Application for patent of Ferdinand J. Ratti, Serial No. 359,325, filed June 3, 1953; Patent Office Division 52. From decision rejecting claims 1, 4, 7, and 10, applicant appeals. Reversed; Kirkpatrick, Judge, dissenting with opinion in which Worley, Chief Judge, joins.



**Attorneys:**

CROMWELL, GREIST & WARDEN (RAYMOND L. GREIST of counsel) both of Chicago, Ill., for appellant.

CLARENCE W. MOORE (S. WM. COCHRAN of counsel) for Commissioner of Patents.

**Judge:**

Before WORLEY, Chief Judge, RICH, MARTIN, and SMITH, Associate Judges, and KIRKPATRICK, Judge \*.

**Opinion Text****Opinion By:**

SMITH, Judge.

This is an appeal from the decision of the Board of Appeals of the United States Patent Office affirming the rejection by the Primary Examiner of claims 1, 4, 7 and 10 of appellant's application serial No. 359,325, filed June 3, 1953, for a patent on an "Oil Seal" for sealing the space between a bore in a housing and a relatively movable shaft centrally located in the bore.

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Claim 1 is representative of claims 4 and 7 and reads:

1. A seal for insertion in a cylindrical bore in a housing about a relatively movable centrally located shaft, comprising an annular bore-engaging mounting portion of resiliently deformable material for endwise insertion in and statically sealed engagement with the bore in the housing, an annular shaft-engaging portion connected with said bore-engaging portion for running engagement with the shaft, and a *metal ring* located adjacent one end of said bore-engaging portion, said ring being *provided with a plurality of axially extending outwardly biased spring fingers in outwardly clamped engagement with said bore-engaging portion* inwardly of the outer periphery of the latter, and said ring being *also provided* outwardly of said bore-engaging portion *with means for detachably connecting the ring to the housing* outwardly of the bore in the latter. (Emphasis ours.)

Claim 10 differs from the other claims on appeal and reads:

10. A seal for insertion in a cylindrical bore in a housing about a relatively movable centrally located shaft, comprising a sealing ring having an outer bore-engaging portion of resiliently deformable material, which portion is of somewhat larger diameter than the bore in the housing, for press-fit insertion in the bore, and a *metal retaining ring* associated with the sealing ring, said retaining ring being connected with the sealing ring and being provided outwardly of the latter *with resiliently yieldable hook formations which are adapted to be sprung into interlocking engagement with a complementary formation associated with the housing* outwardly of the bore, which engagement acts to prevent axial displacement of the sealing ring relative to the bore in the housing. (Emphasis ours.)

The references in the case are:

Roth, 1,546,942, July 21, 1925.

Norton, 1,951,034, Mar. 1, 1934.

Jepson, 2,544,324, Mar. 6, 1951.

Chinnery et al. (British), 578,526, July 2, 1946.

Appellant's shaft seal comprises an annular sealing member of resilient deformable material which is adapted to be inserted into a cylindrical bore surrounding a relatively movable shaft. The inner portion of the sealing member is provided with a flexible lip which is held in engagement with the shaft by a garter spring. In the outer portion of the sealing member, an annular slot is provided which is concentric with and spaced from the outer periphery of the sealing member. This slot extends axially from the end of the member and provides a pocket in which the axially extending outwardly biased spring fingers of a metallic attaching ring are located. This construction permits the spring fingers to exert a force on the resilient material in the direction of the annular wall of the bore to provide and maintain a snug engagement between the outer surface of the resilient member and the inner surface of the bore. The metallic attaching ring is also provided with radially extending resilient hooks located outwardly of the bore engaging portion of the resilient member. The housing is provided with a complementary formation outwardly of the bore which is engaged by the resilient hooks to provide a snap-on connection between the bore and the seal.

The Roth and Norton patents were relied upon by the examiner in rejecting claim 10, and since both references were considered by the board, we have included them in our consideration of this case. Roth shows a gasket structure for steam train line hose couplings. Norton shows an adjustable repair clamp for bell and spigot joints in which there is provided a sheet metal bridge piece "preferably of spring material." The bridge piece is sprung into interlocking engagement with a structural portion of the clamp and exerts its force on a resilient packing ring which, if desired, may be cemented to it.

The Chinnery et al. patent is the reference principally relied upon by the Patent Office. It shows a housing provided with a bore surrounding a centrally located shaft. A reinforced and "stiffened" sealing member formed of a material such as rubber, is press fitted into the space between the bore and the shaft. The sealing member has an inner lip held in contact with the shaft by a garter spring. The bore engaging portion of the sealing member is "stiffened" by an axially extending cylindrical sheet metal casing which acts as a reinforcing member for a definite purpose which is described by Chinnery et al. as follows:

Owing to the limited radial space within which the oil seal is to be accommodated, the holding portion of the oil seal cannot be stiffened by being massive. Consequently the holding portion of the present oil seal is stiffened in the known manner by a reinforcement, which may either encase or line, or alternatively constitute, such holding portion and therefore makes the press-fitting contact with the machine part stationary relatively thereto, *or may be an internal reinforcement in the sense that it does not make press-*

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fitting contact with the machine part stationary relatively thereto. (Emphasis ours.)

In Fig. 8 Chinnery et al. shows a radially extending flange at the outer edge of a reinforcing member of the internal reinforcement type which flange extends beyond the sealing member "to such an extent as to serve as a means of attachment of the oil seal to the housing *i*, additional to the interference press fit of the holding portion *a* in the housing recess *g*. " The aforesaid flange is shown attached to the housing by screws or bolts.

The Jepson patent relates to a gasket for sealing the space between the upper and lower vessels of a vacuum-type coffee maker. The gasket is an annular rubber member attached to the lower part of the upper vessel and is designed to fit into the upper part of the lower one. Located in a groove in the gasket is a sleeve member provided with axially and downwardly extending spring fingers which are so biased radially as to urge the lower peripheral portion of the gasket outwardly, thus effecting a tight engagement with the mouth of the lower vessel.

Claims 1, 4, and 7 stand rejected on Chinnery et al. in view of Jepson, on the ground that it would not require "invention" to replace the cylindrical sheet metal reinforcing member, which is secured to the Chinnery et al. sealing member, by an annular set of outwardly biased spring fingers shown by Jepson.

The problems which were solved by appellant's invention existed in this art at the time of his invention despite the Chinnery et al. disclosures. It was appellant rather than Chinnery et al. who provided the art with a shaft seal in which the resilient element of the seal could be readily inserted into a bore in the housing so that it could be removed from the bore and replaced by a new sealing element without mutilation of the sealing surface of the bore. This is particularly important, the specification points out, where the bore is formed in light metal alloys such as are used in aircraft engines and which are relatively soft and easily damaged. In appellant's oil seal, the resilient seal is so constructed that when mounted in the bore, it will establish and maintain a fluid tight relationship between the outer peripheral surface of the resilient seal member and the inside of the bore. Where either natural or synthetic rubber is used as the resilient sealing member in such seals, the rubber in time will take a set or lose its resiliency at least to the extent that the seals soon become ineffective to prevent leakage of oil. When subjected to mechanical pressures and heat, such a rubber sealing element loses its sealing effectiveness at an accelerated rate. The problems in the oil sealing art arising from such use of resilient sealing elements appear to have persisted because of the failure of the art to recognize these characteristics of the rubber sealing element and to so design the resilient element and the mounting therefor as to assure holding the outer circumference of the resilient sealing element in static oil-sealing contact with the inner circumference of the bore in which it is inserted.

Appellant's seal differs from the art of record in at least three respects:

- (1) The provision of the annular slot which extends axially inward from one end of the resilient sealing element. This feature is claimed as part of the combination set forth in claim 4.
- (2) The outwardly biased resilient spring means or fingers inserted in the resilient sealing element. These means are claimed as part of the combination of claims 1, 4 and 7.
- (3) The "snap-on" connector which holds the resilient sealing element and engages with a complementary formation associated with the housing outwardly of the bore. This feature is in the combination of claim 10.

The patents cited by the examiner, either alone or in combination, do not disclose a resilient shaft sealing element having these features.

[1] It is common knowledge that resilient deformable materials such as either natural or synthetic rubber are incompressible, that is, while they may be deformed, this can occur only if the design and mounting of the part permits the resilient material to change its shape in response to the applied forces.

The seal construction disclosed in Chinnery et al. is such that the "interference press fit" which that patent calls for is alone relied on to keep the seal tight. There is nothing in the Chinnery et al. patent to show how the resilient sealing element is *maintained* in resilient contact with the bore otherwise than by

the resiliency of the rubber. If and when that resiliency is lost, the sealing effect will be impaired.

Considering the incompressible nature of the rubber in the sealing element disclosed in Chinnery et al., its stiffening and reinforcement by the cylindrical sheet metal member, and its "interference press fit" in the bore, it seems clear to us that the Chinnery et al. seal cannot function in the manner of appellant's seal. Now, as to the contention that Jepson would suggest inserting a set of spring fingers, the resilient element of Chinnery et al. is forced so tightly into the bore

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and is so "stiffened" that the use of the resilient spring fingers of Jepson could not possibly increase the resilient deformation of the Chinnery et al. seal in the direction of the bore or increase the sealing engagement of the seal with the bore. The teaching of the Chinnery et al. patent points away from the addition of any spring element. On the other hand, we find nothing in the disclosure of Jepson's coffee maker gasket to suggest that any part of it has applicability to shaft seals. The two arts are at least somewhat remote from each other even if they both involve sealing.

[2] We, therefore, find that Chinnery et al. did not teach the shaft sealing art how to solve the problems which existed in that art at the time of appellant's invention. We hold, further, that the combination of Jepson with Chinnery et al. is not a proper ground for rejection of the claims here on appeal. This suggested combination of references would require a substantial reconstruction and redesign of the elements shown in Chinnery et al. as well as a change in the basic principles under which the Chinnery et al. construction was designed to operate.

Once appellant had taught how this could be done, the redesign may, by hindsight, seem to be obvious to one having ordinary skills in the shaft sealing art. However, when viewed as of the time appellant's invention was made, and without the benefit of appellant's disclosure, we find nothing in the art of record which suggests appellant's novel oil seal as defined in claims 1, 4 and 7.

We shall now consider the rejection of claim 10, remarking first that it differs from claims 1, 4 and 7 in that it is directed to a combination of a housing bore, a resilient sealing ring and a metal retaining ring connected to the sealing ring, wherein the metal ring has *resilient hooks* which secure the seal in the bore. This claim is not limited to the outwardly biased spring fingers.

The examiner rejected claim 10 on two grounds: (1) that substitution for the screw securing means of Chinnery et al. of a series of spring hooks such as disclosed by Norton would not involve patentable invention, and (2) unpatentability over Roth.

[3] We shall first dispose of the second rejection. The board held that claim 10 is drawn to a combination of a sealing ring and a housing bore in which the sealing ring is detachably placed and that Roth discloses nothing of this nature. The board therefore reversed the rejection on Roth and consequently it is not before us.

As to the first rejection, the board recognized that it was on the ground of unpatentability "over Chinnery et al. in view of Norton" and pointed out that the examiner could see nothing patentable in substituting spring hook attaching means shown in Norton for the screws of Chinnery et al. It then said:

Appellant argues that the references fail to suggest or teach how the proposed [claimed] combination could be made and after a careful consideration of the references, *we have concluded that he is correct in this respect. We therefore concede that the claim \* \* \* defines novelty over the disclosure of Fig. 8 of Chinnery et al.* Novelty alone however, is no proper basis for the allowance of a claim. (Emphasis ours.)

[4] Although, in reaching this conclusion, the board made no reference to Norton, the context compels the conclusion that novelty was found notwithstanding the disclosure of Norton, taken together with Chinnery et al. We fully agree, of course, with the board's statement that novelty alone is not enough for patentability.

With the next statement of the board, in explanation of its affirmance of the rejection of claim 10, we do not agree. It reads:

In order to *properly* define invention [meaning, of course, *patentable* invention], a claim should clearly define a structure *which possesses some definite advantage over the prior art*. As far as we can determine there is *no better* combination of housing and seal produced by using a series of snap fastener connections to connect the seal to the housing, as in appellant's structure, over using a series of bolts, as in the structure shown by Chinnery et al. Both act to merely detachably connect one element to another element and as far as we can find are merely equivalent connecting means especially in the absence of any unexpected result *or advantage* being obtained, by using one means in preference to the other, on which the record before us is entirely silent. (Emphasis ours.)

If we may extract from the foregoing what we understand to be the essence of the board's position in the matter, it is that claim 10 is not patentable, though it defines a combination which is novel over the disclosures of the references, because the claimed combination has not been shown to be any better than, or to possess any advantage over, what was known to the art.

[5][6] As was pointed out in *In re Stempel, Jr.*, 44 CCPA 820, 241 F.2d 755, 113 USPQ 77, an applicant is entitled to a patent, under the statutes, unless one of the prohibitory provisions of the statutes applies. The statutory requirements

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for patentability, broadly stated, are novelty, usefulness and unobviousness, as provided in 35 U.S.C. sections 101, 102, and 103. While it is true that proof that an invention *is* better or *does* possess advantages may be persuasive of the existence of any one or all of the foregoing three requirements, and hence be indicative of patentability, Congress has not seen fit to make such proof a prerequisite to patentability.<sup>1</sup>

[7] Appellant's invention, as defined in claim 10, has been held by the board to possess novelty over the disclosure of Chinnery et al. Just what the board thought about the pertinency of Norton is obscure but it seems to have regarded this reference as of little moment. Appellant in his brief here said that Norton was held by the board to have no bearing on the invention and the Patent Office brief said that the appellant was correct in so stating and that the court need not consider it. We are, therefore, virtually without any reference against claim 10 except Chinnery et al. and the rejection thereon is predicated solely on a theory of patentability we find to be outside of the patent statutes, namely, that the combination of claim 10 is, by reason of the use of spring retaining hooks instead of a series of bolts, *no better* than the combination of Chinnery et al. However intriguing such a ground of rejection may be, it is the duty of the tribunals of the Patent Office and of this court to apply the law as Congress has written it. While the provisions of the former R.S. 4893 may be said to have given the Commissioner some discretion in refusing to grant a patent on an otherwise patentable invention unless "the same is sufficiently useful and important," when the Patent Codification Act of 1952 was enacted, Congress removed this provision from old section 36 of title 35, now section 131. We take this as a further indication that it is the intent of Congress that patentability be determined solely by the provisions of sections 101, 102 and 103. We therefore reverse the board on this ground of rejection of claim 10.

If the issue before us were whether or not the spring hooks *are* better than the Chinnery et al. bolts—and we consider this in the event we have misapprehended the position of the board—we would hold that they are, on the basis of what is disclosed in the application. This retaining means seems to possess many advantages over screws. Similarly, if the board was intending to say that the hooks and the bolts are merely equivalent connecting means and that claim 10 is unpatentable because its combination differs from the prior art only in the substitution of an equivalent for one element in an old combination, then we would also have to disagree since we think it is clear that the use of the spring hooks produces a result quite different from the bolts of Chinnery et al. On the record before us no reference relied on shows any spring hooks nor does it contain any support for the contention that bolts and spring hooks are equivalents.

For the foregoing reasons we reverse the rejection of claim 10.

The rejections of claims 1, 4, 7 and 10 are *reversed*.

### Footnotes

Footnote 1. A critical essay on the existing law has recently appeared under the title "A Proposal for: A Standard of Patentability; Consonant Statutory Changes; A Manual on Determination of Patentability," by Malcolm F. Bailey, 41 J.P.O.S. 192-225, 231-257. It advocates, as we understand it, that the present law should be changed to set up as the test for patentability, in place of the requirement of section 103 that an invention be unobvious, a requirement that the invention involve *progress*, which the author finds in the constitutional provisions. Congress has not seen fit to include in the statutes, at any time during the past 169 years so far as we are aware, a requirement that each and every patentable *invention* shall involve "progress" in this sense, i.e., that each new invention must also be shown to possess some definite advantage over the prior art. The author relates the term "progress" to individual inventions and then gives it the connotation that each such invention should be a technical advance, improvement or betterment. The very making of the suggestion to change the law is an indication that the existing law is otherwise.

### Concurring Opinion Text

#### Concur By:

MARTIN, Judge, concurs in result.

### Dissenting Opinion Text

#### Dissent By:

KIRKPATRICK, Judge, dissenting, in which WORLEY, Chief Judge, joins.

I think that the board's rejection of claims 1, 4 and 7 should be affirmed. The central idea and the most important feature of these three claims, as well as of allowed claim 5, is the exertion of outwardly directed pressure upon the bore engaging portion of the sealing member, the result accomplished being to counteract the tendency of rubber to "set" or lose its resiliency and so become ineffective to prevent leakage. Jepson comes very close to completely anticipating this feature of the patent. All that would be necessary to make the anticipation complete would be to provide the Jepson seal with a shaft engaging portion and, incidentally, claim 7 does not specify any shaft engaging portion.

Of course, it was necessary that the seal be attached to the bore in a manner to prevent its displacement. Chinnery provides a flange and screws for this purpose and none of the three claims referred to calls for anything more specific than "means." Thus it seems clear that

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claims 1, 4 and 7 show no patentable novelty as against the prior art of Chinnery plus Jepson.

The only question is whether Jepson is in a nonanalogous art sufficiently remote from that of the application to put it beyond the probability that it would be considered by persons skilled in the art endeavoring to solve the problem to the solution of which the application is directed. I do not think that it is. Jepson was trying to meet exactly the same problem as the application under consideration, namely, to provide a compressible seal which could be readily detached or inserted in a cylindrical bore but which would maintain a firm and leakproof seat on the bore when in place. I agree with the Solicitor's argument that one seeking to improve a machinery seal would reasonably be expected to investigate not only machinery seals but seals in other arts where similar problems would be encountered. See *In re O'Connor*, 34 CCPA 1055, 161 F.2d 221, 73 USPQ 433.

Claim 10 stands on a somewhat different basis. This claim entirely omits what I think, and have stated above, to be the heart of the application. In substance, claim 10 really amounts to no more than a claim for a hook formation to interlock with the housing of a bore in order to hold a press fit seal in place.<sup>1</sup> Chinnery discloses means to serve the same purpose consisting of screws.

The board conceded that the combination disclosed in claim 10, consisting of spring hooks to fasten a press fit seal to the bore, disclosed novelty over Chinnery but not patentable novelty.

I do not read the opinion of the board as predicated its conclusion of want of invention on the theory that in order to be patentable a combination must have some distinct advantage over the prior art. The board stated that there was nothing in the record to show that the substitution of hooks for screws produced any unexpected result or advantage and, therefore, concluded that the introduction of hooks did not create patentable novelty, but was a mere substitution of equivalents. The statement that the spring hooks of Ratti were no better than the screws of Chinnery was directed toward this point and seemingly was added to fortify the board's finding of equivalency rather than to propound a theory of patentability. I agree with the board that this claim, though it may show novelty over Chinnery, does not show patentable novelty, and I would affirm its rejection.

### Footnotes

Footnote 1. Chinnery discloses a press fit seal, but no one has suggested that there is anything new about such a device and the specification of the application before us concedes that it is old in the art.

Footnote \* United States Senior District Judge for the Eastern District of Pennsylvania, designated to participate in place of Judge O'CONNELL, pursuant to the provisions of Title 28, United States Code, Section 294(d).

- End of Case -

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

In re Fine (CA FC) 5 USPQ2d 1596 (1/26/1988)

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In re Fine (CA FC) 5 USPQ2d 1596

**In re Fine**

**U.S. Court of Appeals Federal Circuit**  
**5 USPQ2d 1596**

**Decided January 26, 1988**  
**No. 87-1319**

**Headnotes**

**PATENTS**

**1. Patentability/Validity -- Obviousness -- Evidence of (§ 115.0903)**

Patent and Trademark Office improperly rejected claimed invention for obviousness since nothing in cited references, either alone or in combination, suggests or teaches claimed invention, since there is consequently no support for PTO's conclusion that substitution of one type of detector for another in prior art system, resulting in claimed invention, would have been obvious, and since PTO therefore failed to satisfy its burden of establishing prima facie case of obviousness by showing some objective teaching or generally available knowledge that would lead one skilled in art to combine teachings of existing references.

**2. Patentability/Validity -- Obviousness -- In general (§ 115.0901)**

Obviousness is tested by what combined teachings of prior art references would have suggested to those of ordinary skill in art, not by whether particular combination of elements from such references might have been "obvious to try."

**3. Patentability/Validity -- Obviousness -- Evidence of (§ 115.0903)**

Patent and Trademark Office erred, in rejecting as obvious system for detecting and measuring minute quantities of nitrogen compounds, by failing to recognize that appealed claims can be distinguished over combination of prior art references, in view of evidence demonstrating that prior art does not teach

claimed temperature range, despite some overlap of preferred temperature ranges for claimed invention and prior art, since purposes of preferred temperature ranges are different and overlap is mere happenstance.

#### **4. Patentability/Validity -- Obviousness -- In general (§ 115.0901)**

Dependent claims are non-obvious under 35 USC 103 if claims from which they depend are non-obvious.

#### **Case History and Disposition:**

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Appeal from the U.S. Patent and Trademark Office Board of Patent Appeals and Interferences.

Application for patent by David H. Fine, Serial No. 512,374. From decision of Board of Patent Appeals and Interferences affirming rejection of application, applicant appeals. Reversed; Smith, circuit judge, dissenting with opinion.

#### **Attorneys:**

Morris Relson and Darby & Darby, New York, N.Y., (Beverly B. Goodwin with them on the brief) for appellant.

Lee E. Barrett, associate solicitor, Arlington, Va., (Joseph F. Nakamura, solicitor, and Fred E. McKelvey, deputy solicitor, with him on the brief) for appellee.

#### **Judge:**

Before Friedman, Smith, and Mayer, circuit judges.

#### **Opinion Text**

#### **Opinion By:**

Mayer, J.

David H. Fine appeals from a decision of the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office (Board) affirming the rejection of certain claims of his application, Serial No. 512,374, and concluding that his invention would have been obvious to one of ordinary skill in the art and was therefore unpatentable under 35 U.S.C. §103. We reverse.

#### **Background**

##### ***A. The Invention .***

The invention claimed is a system for detecting and measuring minute quantities of nitrogen compounds. According to Fine, the system has the ability to detect the presence of nitrogen compounds in quantities as minute as one part in one billion, and is an effective means to detect drugs and explosives, which emanate nitrogen compound vapors even when they are concealed in luggage and

closed containers.

The claimed invention has three major components: (1) a gas chromatograph which separates a gaseous sample into its constituent parts; (2) a converter which converts the nitrogen compound effluent output of the chromatograph into nitric oxide in a hot, oxygen-rich environment; and (3) a detector for measuring the level of nitric oxide. The claimed invention's sensitivity is achieved by combining nitric oxide with ozone to produce nitrogen dioxide which concurrently causes a detectable luminescence.

The luminescence, which is measured by a visual detector, shows the level of nitric oxide which in turn is a measure of nitrogen compounds found in the sample.

The appealed claims were rejected by the Patent and Trademark Office (PTO) under 35 U.S.C. §103. Claims 60, 63, 77 and 80 were rejected as unpatentable over Eads, Patent No. 3,650,696 (Eads) in view of Warnick, et al., Patent No. 3,746,513 (Warnick). Claims 62, 68, 69, 79, 85 and 86 were rejected as unpatentable over Eads and Warnick in view of Glass, et al., Patent No. 3,207,585 (Glass).

## **B. The Prior Art .**

### **1. Eads Patent .**

Eads discloses a method for separating, identifying and quantitatively monitoring sulfur compounds. The Eads system is used primarily in "air pollution control work in the scientific characterization of odors from sulfur compounds."

The problem addressed by Eads is the tendency of sulfur compounds "to adhere to or react with the surface materials of the sampling and analytical equipment, and/or react with the liquid or gaseous materials in the equipment." Because of this, the accuracy

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of measurement is impaired. To solve the problem, the Eads system collects an air sample containing sulfur compounds in a sulfur-free methanol solution. The liquid is inserted into a gas chromatograph which separates the various sulfur compounds. The compounds are next sent through a pyrolysis furnace where they are oxidized to form sulfur dioxide. Finally, the sulfur dioxide passes through a measuring device called a microcoulometer which uses titration cells to calculate the concentration of sulfur compounds in the sample.

### **2. Warnick Patent .**

Warnick is directed to a means for detecting the quantity of pollutants in the atmosphere. By measuring the chemiluminescence of the reaction between nitric oxide and ozone, the Warnick device can detect the concentration of nitric oxide in a sample gaseous mixture.

Warnick calls for "continuously flowing" a sample gaseous mixture and a reactant containing ozone into a reaction chamber. The chemiluminescence from the resulting reaction is transmitted through a light-transmitting element to produce continuous readouts of the total amount of nitric oxide present in the sample.

### **3. Glass Patent.**

The invention disclosed in Glass is a device for "completely burning a measured amount of a substance and analyzing the combustion products." A fixed amount of a liquid petroleum sample and oxygen are supplied to a flame. The flame is then spark-ignited, causing the sample to burn. The resulting combustion products are then collected and measured, and from this measurement the hydrogen concentration in the sample is computed.

## **C. The Rejection .**

The Examiner rejected claims 60, 63, 77 and 80 because "substitution of the [nitric oxide] detector of Warnick for the sulfur detector of Eads would be an obvious consideration if interested in nitrogen compounds, and would yield the claimed invention." He further asserted that "Eads teaches the

[claimed] combination of chromatograph, combustion, and detection, in that order. . . . Substitution of detectors to measure any component of interest is well within the skill of the art." In rejecting claims 62, 68, 69, 79, 85 and 86, the Examiner said, "Glass et al. teach a flame conversion means followed by a detector, and substitution of the flame conversion means of Glass et al. for the furnace of Eads would be an obvious equivalent and would yield the claimed invention." The Board affirmed the Examiner's rejection.

### **Discussion**

#### **A. Standard of Review .**

Obviousness under 35 U.S.C. §103 is " 'a legal conclusion based on factual evidence.' " *Stratoflex, Inc. v. Aeroquip Corp.* , 713 F.2d 1530, 1535, 218 USPQ 871, 876 (Fed. Cir. 1983) (quoting *Stevenson v. Int'l Trade Comm'n* , 612 F.2d 546, 549, 204 USPQ 276, 279 (CCPA 1979) ). Therefore, an obviousness determination is not reviewed under the clearly erroneous standard applicable to fact findings, *Raytheon Co. v. Roper Corp.* , 724 F.2d 951, 956, 220 USPQ 592, 596 (Fed. Cir. 1983); it is "reviewed for correctness or error as a matter of law." *In re De Blauwe* , 736 F.2d 699, 703, 222 USPQ 191, 195 (Fed. Cir. 1984).

To reach a proper conclusion under §103, the decisionmaker must step backward in time and into the shoes worn by [a person having ordinary skill in the art] when the invention was unknown and just before it was made. In light of *all* the evidence, the decisionmaker must then determine whether . . . the claimed invention as a whole would have been obvious at *that* time to *that* person. 35 U.S.C. §103. The answer to that question partakes more of the nature of law than of fact, for it is an ultimate conclusion based on a foundation formed of all the probative facts.

*Panduit Corp. v. Dennison Mfg. Co.* , 810 F.2d 1561, 1566, 1 USPQ2d 1593, 1595-96 (Fed. Cir. 1987).

#### **B. Prima Facie Obviousness .**

Fine says the PTO has not established a *prima facie* case of obviousness. He contends the references applied by the Board and Examiner were improperly combined, using hindsight reconstruction, without evidence to support the combination and in the face of contrary teachings in the prior art. He argues that the appealed claims were rejected because the PTO thought it would have been "obvious to try" the claimed invention, an unacceptable basis for rejection.

[1] We agree. The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. *See In re Piasecki* , 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-87 (Fed. Cir. 1984). It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. *In re Lahu* , 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1984); *see also Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.* ,

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776 F.2d 281, 297 n.24, 227 USPQ 657 , 667 n.24 (Fed. Cir. 1985); *ACS Hosp. Sys., Inc. v. Montefiore Hosp.* , 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). This it has not done. The Board points to nothing in the cited references, either alone or in combination, suggesting or teaching Fine's invention.

The primary basis for the Board's affirmance of the Examiner's rejection was that it would have been obvious to substitute the Warnick nitric oxide detector for the Eads sulfur dioxide detector in the Eads system. The Board reiterated the Examiner's bald assertion that "substitution of one type of detector for another in the system of Eads would have been within the skill of the art," but neither of them offered any support for or explanation of this conclusion.

Eads is limited to the analysis of sulfur compounds. The particular problem addressed there is the difficulty of obtaining precise measurements of sulfur compounds because of the tendency of sulfur dioxide to adhere to or react with the sampling analytic equipment or the liquid or gaseous materials in

the equipment. It solves this problem by suggesting that the gaseous sample containing sulfur compounds be absorbed into sulfur-free methanol and then inserted into a gas chromatograph to separate the sulfur compounds.

There is no suggestion in Eads, which focuses on the unique difficulties inherent in the measurement of sulfur, to use that arrangement to detect nitrogen compounds. In fact, Eads says that the presence of nitrogen is undesirable because the concentration of the titration cell components in the sulfur detector is adversely affected by substantial amounts of nitrogen compounds in the sample. So, instead of suggesting that the system be used to detect nitrogen compounds, Eads deliberately seeks to avoid them; it warns against rather than teaches Fine's invention. *See W. L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 USPQ 303, 311 (Fed. Cir. 1983) (error to find obviousness where references "diverge from and teach away from the invention at hand"). In the face of this, one skilled in the art would not be expected to combine a nitrogen-related detector with the Eads system. Accordingly, there is no suggestion to combine Eads and Warnick.

Likewise, the teachings of Warnick are inconsistent with the claimed invention, to some extent. The Warnick claims are directed to a gas stream from engine exhaust "continuously flowing the gaseous mixtures into the reaction chamber" to obtain "continuous readouts" of the amount of nitric oxide in the sample. The other words, it contemplates measuring the total amount of nitric oxide in a continuously flowing gaseous mixture of unseparated nitrogen constituents. By contrast, in Fine each nitrogen compound constituent of the gaseous sample is retained in the Chromatograph for an individual time period so that each exists in discrete, time-separated pulses. \*By this process, each constituent may be both identified by its position in time sequence, and measured. The claimed system, therefore, diverges from Warnick and teaches advantages not appreciated or contemplated by it.

Because neither Warnick nor Eads, alone or in combination, suggests the claimed invention, the Board erred in affirming the Examiner's conclusion that it would have been obvious to substitute the Warnick nitric oxide detector for the Eads sulfur dioxide detector in the Eads system. *ACS Hosp. Sys.*, 732 F.2d at 1575-77, 221 USPQ at 931-33. The Eads and Warnick references disclose, at most, that one skilled in the art might find it obvious to try the claimed invention. But whether a particular combination might be "obvious to try" is not a legitimate test of patentability. *In re Geiger*, 815 F.2d 868, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *In re Goodwin*, 576 F.2d 375, 377, 198 USPQ 1, 3 (CCPA 1978).

[2] Obviousness is tested by "what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so." *Id.* Here, the prior art contains none.

Instead, the Examiner relies on hindsight in reaching his obviousness determination.

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But this court has said, "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W. L. Gore*, 721 F.2d at 1553, 220 USPQ at 312-13. It is essential that "the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made . . . to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *Id.* One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

### **C. Advantage Not Appreciated by the Prior Art .**

[3] The Board erred not only in improperly combining the Eads and Warnick references but also in

failing to appreciate that the appealed claims can be distinguished over that combination. A material limitation of the claimed system is that the conversion to nitric oxide occur in the range of 600°C to 1700°C. The purpose of this limitation is to prevent nitrogen from other sources, such as the air, from being converted to nitric oxide and thereby distorting the measurement of nitric oxide derived from the nitrogen compounds of the sample.

The claimed nitric oxide conversion temperature is not disclosed in Warnick. Although Eads describes a preferred temperature of 675°C to 725°C, the purpose of this range is different from that of Fine. Eads requires the 675°C to 725°C range because it affords a temperature low enough to avoid formation of unwanted sulfur trioxide, yet high enough to avoid formation of unwanted sulfides. Fine's temperature range, in contrast, does not seek to avoid the formation of sulfur compounds or even nitrogen compounds. It enables the system to break down the nitrogen compounds of the sample while avoiding the destruction of background nitrogen gas. There is a partial overlap, of course, but this is mere happenstance. Because the purposes of the two temperature ranges are entirely unrelated, Eads does not teach use of the claimed range. *See In re Geiger*, 815 F.2d at 688, 2 USPQ2d at 1278. The Board erred by concluding otherwise.

#### **D. Unexpected Results .**

Because we reverse for failure to establish a *prima facie* case of obviousness, we need not reach Fine's contention that the Board failed to accord proper weight to the objective evidence of unexpected superior results. *Id.*

#### **E. The "Flame" Claims .**

[4] Claims 62, 68, 69, 79, 85 and 86 relate to the oxygen-rich flame conversion means of the claimed invention. These "flame" claims depend from either apparatus claim 60 or method claim 77. Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious. *Hartness Int'l, Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108, 2 USPQ2d 1826, 1831 (Fed. Cir. 1987); *In re Abele*, 684 F.2d 902, 910, 214 USPQ 682, 689 (CCPA 1982); *see also In re Sernaker*, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). In view of our conclusion that claims 60 and 77 are nonobvious, the dependent "flame" claims are also patentable.

#### **Conclusion**

The Board's decision affirming the Examiner's rejection of claims 60, 62, 63, 68, 69, 77, 79, 80, 85 and 86 of Fine's application as unpatentable over the prior art under 35 U.S.C. §103 is *REVERSED*.

#### **Footnotes**

Footnote \*. The Solicitor argues that the contents of Attachment C of Fine's brief were not before the Board and may not properly be considered here. However, we need not rely on Attachment C. It is merely illustrative of the qualitative separation of nitrogen compounds which occurs in Fine's system. The fact that the various constituents exit at discrete intervals is shown by the specification which was before the Board and which may appropriately be considered on appeal. *See, e.g., Astra-Sjuco, A.B. v. United States Int'l Trade Comm'n*, 629 F.2d 682, 686, 207 USPQ 1, 5 (CCPA 1980) (claims must be construed in light of specification).

#### **Dissenting Opinion Text**

##### **Dissent By:**

Smith, circuit judge, dissenting.

I respectfully dissent. I am of the firm belief that the prior art references, relied upon by the PTO to establish its *prima facie* case of obviousness, in combination teach and suggest Fine's invention to one

skilled in the art. Also, I firmly believe that Fine failed to rebut the PTO's prima facie case. On this basis, I would affirm the board's determination sustaining the examiner's rejection, pursuant to 35 U.S.C. §103, of Fine's claims on appeal before this court.

**- End of Case -**

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

Northern Telecom Inc. v. Datapoint Corp. (CA FC) 15 USPQ2d 1321 (6/29/1990)

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Northern Telecom Inc. v. Datapoint Corp. (CA FC) 15 USPQ2d 1321

**Northern Telecom Inc. v. Datapoint Corp.**

**U.S. Court of Appeals Federal Circuit**  
**15 USPQ2d 1321**

**Decided June 29, 1990**

**Nos. 89-1034, -1035**

**Headnotes**

**PATENTS**

**1. Patentability/Validity - Obviousness - Relevant prior art (§ 115.0903)**

Changes from prior art, whether or not they are "minor," must be evaluated in terms of whole invention, including whether prior art provides any teaching or suggestion to one of ordinary skill in art to make such changes to produce patentee's method and device.

**2. Patentability/Validity - In general (§ 115.01)**

Invalidity is question of law, but party asserting invalidity must, by clear and convincing evidence, establish facts supporting conclusion of invalidity, and asserted inferences of fact must similarly be supported to meet this standard.

**3. Patentability/Validity - Anticipation - Prior publication (§ 115.0705)**

Lack of showing that anyone, by exercise of reasonable diligence, could have had access to documents that concerned military computer system and that were kept in corporate library to which access was restricted warrants finding that such documents were not "printed publications" under 35 USC 102(b).

**4. Practice and procedure in U.S. Patent and Trademark Office - Prosecution - Duty of candor**  
**- In general (§ 110.0903.01)**



**Patentability/Validity - Fraud or inequitable conduct \_\_ (§ 115.15)**

Patent examiner's lapse does not exculpate applicant whose acts are intentionally deceptive, but any doubt as to whether such lapse occurred does not increase burden on applicant, nor does applicant's obligation of candor replace examiner's duty to examine claims.

**5. Practice and procedure in U.S. Patent and Trademark Office - Prosecution - Duty of candor - In general \_\_ (§ 110.0903.01)**

**Patentability/Validity - Fraud or inequitable conduct \_\_ (§ 115.15)**

**Infringement - Defenses - Breach of duty of disclosure or inequitable conduct \_\_ (§ 120.1111)**

Intent to deceive should be determined in light of realities of patent practice, and thus, given ease with which relatively routine act of patent prosecution can be portrayed as intended to mislead or deceive, clear and convincing evidence of conduct sufficient to support inference of culpable intent is required.

**6. Practice and procedure in U.S. Patent and Trademark Office - Prosecution - Duty of candor - In general \_\_ (§ 110.0903.01)**

**Infringement - Defenses - Breach of duty of disclosure or inequitable conduct \_\_ (§ 120.1111)**

Federal district court clearly erred by finding that applicant, in filing amendment as of right under Patent and Trademark Office Rule 312, 37 CFR 1.312, intended to mislead or deceive PTO, based upon considerations of all circumstances, including good faith.

**7. Patentability/Validity - Fraud or inequitable conduct \_\_ (§ 115.15)**

**Infringement - Defenses - Breach of duty of disclosure or inequitable conduct \_\_ (§ 120.1111)**

Device that was not prior art was not material to patentability, and thus applicant's failure to disclose it cannot constitute inequitable conduct.

**8. Patentability/Validity - "Best mode" disclosure \_\_ (§ 115.11)**

Federal district court did not err in finding that claims for computer data entry device which used magnetic type cassettes of "general type" that are almost "universally available," were invalid for failing to disclose best mode, based on its finding that applicant knew that standard audio tape was not best mode for carrying out invention.

### **9.9 Patentability/Validity - Adequacy of disclosure (§ 115.12)**

Enablement, for purposes of computer program that implements claimed device or methods, is determined from viewpoint of skilled programmer, and amount of disclosure necessary may vary according to nature of invention, program's role in carrying it out, and complexity of contemplated programming, all from viewpoint of skilled programmer.

### **10. Infringement - Doctrine of equivalents - Reverse equivalents (§ 120.0703)**

Addition of features to accused device does not avoid infringement, if all elements of patent claims have been adopted, nor is infringement avoided if claimed feature performs not only as shown in patent but also performs additional function.

### **Particular patents - Electrical - Computers**

3,760,375, Irwin and Levine, computer source data entry terminal device for capturing and storing data for future processing, claims 19-20, 22, and 24-28 invalid; claims 35-37, 40-42, and 44, not invalid, enforceable, and infringed.

### **Case History and Disposition:**

Page 1322

Appeal from the U.S. District Court for the Northern District of Texas, Fitzwater, J.; 9 USPQ2d 1577.

Action by Northern Telecom Inc. against Datapoint Corp. for patent infringement. From decision entering judgment in favor of defendant, parties cross-appeal. Affirmed in part, reversed in part, and remanded; Newman, J., concurring in part and dissenting in part in separate opinion.

### **Attorneys:**

Donald R. Dunner, of Finnegan, Henderson, Farabow, Garrett & Dunner, Washington, D.C. (J. Michael Jakes, Washington, with him on brief; George W. Whitney, Henry Y.S. Tang, and Richard S. Clark, of Brumbaugh, Graves, Donohue & Raymond, New York, N.Y., of counsel), for plaintiff-appellant.

Jerry R. Sellinger, of Baker, Mills & Glast (Andrew S. Viger and Martha E. Waters, with him on brief), Dallas, Tex., for defendant/cross-appellant.

### **Judge:**

Before Markey, \*Newman, and Archer, circuit judges.

### **Opinion Text**

### **Opinion By:**

Per curiam.

Northern Telecom, Inc., successor-in-interest to Sycor, Inc. (together herein "Sycor"), appeals the

decision of the United States District Court for the Northern District of Texas. *Northern Telecom, Inc. v. Datapoint Corp.*, No. CA3-82-1039-D [ 9 USPQ2d 1577 ] (N.D. Tex. Aug. 31, 1988). Datapoint Corporation has filed a cross-appeal. At issue are the validity and enforceability of United States Patent No. 3,760,375 ("the '375 patent"), and infringement by Datapoint.

We affirm the district court's holding that certain claims had not been proved invalid under 35 U.S.C. §§102 and 103, that certain claims are infringed, and that certain claims are invalid for failure to comply with the best mode requirement of 35 U.S.C. §112. We reverse the district court's holdings of invalidity for failure to comply with the enablement requirement of 35 U.S.C. §112. We reverse the equitable determination of unenforceability based on inequitable conduct.

### ***The Invention***

The '375 patent, entitled "Source Data Entry Terminal", inventors Samuel N. Irwin and Michael R. Levine, relates to a mode of "batch processing" of data. In batch processing, data are entered by the operator and stored, off-line, 1 the operator not interacting with the computer but simply with the batch data entry device.

Batch data preparation and entry were not new. Systems in common use at the time this invention was made included the IBM punch card, the paper tape punch, and the key-to-magnetic tape recorder. The invention of the '375 patent, a programmable processor-based batch data entry terminal, provided an improved way of entering, verifying, and storing data. Entry and verification of data at the source by persons who understand the data removes a source of error in data processing. The inventors built a major business on the invention of the '375 patent.

In accordance with the '375 invention, the data are keyed into a form that is displayed on the screen; the operator is guided by names and instructions on the screen; and certain entries are subject to automatic as well as visual checks and edits. A storage area, or buffer, holds the data as it is entered and, when the buffer holds a complete and correct record, the data are transferred to a magnetic tape cassette.

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Sycor filed suit charging Datapoint with infringement of the '375 patent. Datapoint raised numerous defenses and counterclaims. The cause was vigorously litigated, the trial taking seventy days over a six-month period. The district court issued extensive findings of fact and conclusions of law, in a 219 page opinion. Each side appeals certain of the issues that were decided adversely to it.

I

### ***Obviousness - 35 U.S.C. §103***

Datapoint appeals the district court's determination that Datapoint did not prove by clear and convincing evidence facts requiring a holding that claims 35-37; 40-42, and 44 are invalid under §103. Datapoint also raises the issue of invalidity under §103 of claims 19, 20, and 25-28.

Datapoint relies as prior art on the Lincoln Laboratory Instrument Computer (LINC), developed in 1962 by expert witness Professor Clark, running the Patient Interview program, written by a Dr. Slack. The LINC is described as a stored program computer designed for laboratory use, consisting of a keyboard for data entry and commands to the computer, an electronics cabinet, an oscilloscope information display, and reel-to-reel digital magnetic tape units for storing data and programs.

### ***Claims 40-42 and 44***

Claim 40 is as follows:

40. A method of implementing a source data entry terminal device, comprising the steps: connecting selected input/output peripheral components including at least a keyboard data entry means and a visual data display means to a buffer memory and to a central processor organization, and using said buffer memory for temporary storage of data entered by said keyboard means;

incorporating control logic for all such peripheral components in the central processor and controlling each such component by the central processor, such that said peripheral components need have substantially no local control logic of their own;  
and dedicating the terminal to a given operational configuration by incorporating a fixed program in said central processor.

Claims 41, 42, and 44 are dependent upon claim 40, and contain additional limitations.

The district court found that the final step of claim 40, requiring a fixed program, differed from the LINC because the LINC did not employ a fixed program. Datapoint contends on this appeal, as it did at trial, that this difference is a "routine design choice".

Sycor does not dispute that fixed programs are not new: Inventor Irwin, in his testimony, gave the example of a calculator. Sycor describes the invention of the '375 patent as a new combination of known steps and elements, that provides a new and commercially successful solution to the problems of batch data entry. Sycor states that this combination was not taught or suggested by the prior art, including the LINC and the LINC as modified by the Patient Interview program.

It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1988) (insufficient to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor); *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1546, 221 USPQ 1,

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

Verdegaal Brothers Inc. v. Union Oil Company of California (CA FC) 2 USPQ2d 1051 (3/12/1987)

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Verdegaal Brothers Inc. v. Union Oil Company of California (CA FC) 2 USPQ2d 1051

**Verdegaal Brothers Inc. v. Union Oil Company of California****U.S. Court of Appeals Federal Circuit  
2 USPQ2d 1051**

Decided March 12, 1987

No. 86-1258

**Headnotes****PATENTS****1. Patentability/Validity -- Anticipation -- Prior art (§ 115.0703)**

Federal district court erred in denying patent infringement defendant's motion for judgment n.o.v., in view of evidence demonstrating that claims for making urea-sulfuric acid fertilizer, including claims that reaction be conducted in "heat sink" of recycled fertilizer to prevent high temperature buildup, were anticipated by prior art patent that specifically detailed process for making such urea-sulfuric acid products and that explicitly taught that base or "heel" of recycled fertilizer can be used to make more of product, even if patentee of prior art did not recognize that heel functioned as heat sink, since heat sink property was inherently possessed by heel.

**Particular patents -- Fertilizers**

4,310,343, Verdegaal and Verdegaal, Process for Making Liquid Fertilizer, holding of validity and infringement reversed.

**Case History and Disposition:**

Appeal from District Court for the Eastern District of California, Coyle, J.

Action by Verdegaal Brothers Inc., William Verdegaal, and George Verdegaal, against Union Oil Company of California, and Brea Agricultural Services Inc., for patent infringement. From decision denying defendants' motion for judgment notwithstanding the verdict, defendants appeal. Reversed.

**Attorneys:**

Andrew J. Belansky of Christie, Parker & Hale (David A. Dillard, with him on the brief), all of Pasadena, Calif., for appellants.

John P. Sutton of Limbach, Limbach & Sutton (Michael E. Dergosits, with him on the brief), all of San Francisco, Calif., for appellees.

**Judge:**

Before Markey, Chief Judge, and Davis and Nies, Circuit Judges.

**Opinion Text**

**Opinion By:**

Nies, Circuit Judge.

Union Oil Company of California and Brea Agricultural Services, Inc. (collectively Union Oil) appeal from a judgment of the United States District Court for the Eastern District of California, No. CV-F-83-68 REC, entered on a jury verdict which declared U.S. Patent No. 4,310,343 ('343), owned by Verdegaal Brothers, Inc., "valid" and claims 1, 2, and 4 thereof infringed by Union Oil. Union Oil's motion for judgment notwithstanding the verdict (JNOV) was denied. We reverse.

I

**BACKGROUND**

***The General Technology***

The patent in suit relates to a process for making certain known urea-sulfuric acid liquid fertilizer products. These products are made by reacting water, urea (a nitrogen-containing chemical), and sulfuric acid (a sulfur-containing chemical) in particular proportions. The nomenclature commonly used by the fertilizer industry refers to these fertilizer products numerically according to the percentages by weight of four fertilizer constituents in the following order: nitrogen, phosphorous, potassium, and sulfur. Thus, for example, a fertilizer containing 28% nitrogen, no phosphorous or potassium, and 9% sulfur is expressed numerically as 28-0-0-9.

***The Process of the '343 Patent***

The process disclosed in the '343 patent involves the chemical reaction between urea

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and sulfuric acid, which is referred to as an exothermic reaction because it gives off heat. To prevent high temperature buildup, the reaction is conducted in the presence of a nonreactive, nutritive heat sink which will absorb the heat of reaction. Specifically, a previously-made batch of liquid fertilizer -- known as a "heel" -- can serve as the heat sink to which more reactants are added. Claims 1 and 2 are representative:

1. In a process for making a concentrated liquid fertilizer by reacting sulfuric acid and urea, to form an end product, the improvement comprising:
  - a. providing a non-reactive, nutritive heat sink, capable of dissipating the heat of urea and sulfuric acid, in an amount at least 5% of the end product,
  - b. adding water to the heat sink in an amount not greater than 15% of the end product,
  - c. adding urea to the mixture in an amount of at least 50% of the total weight of the end product,
  - d. adding concentrated sulfuric acid in an amount equal to at least 10% of the total weight of the end product.
2. The process of claim 1 wherein the heat sink is recycled liquid fertilizer.

### **Procedural History**

Verdegaal brought suit against Union Oil in the United States District Court for the Eastern District of California charging that certain processes employed by Union Oil for making liquid fertilizer products infringed all claims of its '343 patent. Union Oil defended on the grounds of noninfringement and patent invalidity under 35 U.S.C. §§102, 103. The action was tried before a jury which returned a verdict consisting of answers to five questions. Pertinent here are its answers that the '343 patent was "valid" over the prior art, and that certain of Union Oil's processes infringed claims 1, 2, and 4 of the patent. None were found to infringe claims 3 or 5. Based on the jury's verdict, the district court entered judgment in favor of Verdegaal.

Having unsuccessfully moved for a directed verdict under Fed. R. Civ. P. 50(a), Union Oil timely filed a motion under Rule 50(b) for JNOV seeking a judgment that the claims of the '343 patent were invalid under sections 102 and 103. The district court denied the motion without opinion.

## II

### **ISSUE PRESENTED**

Did the district court err in denying Union Oil's motion for JNOV with respect to the validity of claims 1, 2, and 4 of the '343 patent?

## III

### **Standard of Review**

When considering a motion for JNOV a district court must: (1) consider all of the evidence; (2) in a light most favorable to the non-moving party; (3) drawing all reasonable inferences favorable to that party; (4) without determining credibility of the witnesses; and (5) without substituting its choice for that of the jury's in deciding between conflicting elements of the evidence. *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512-13, 220 USPQ 929, 936 (Fed. Cir.), *cert. denied*, 469 U.S. 871 [ 224 USPQ 520 ] (1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1546, 220 USPQ 193, 197 (Fed. Cir. 1983). A district court should grant a motion for JNOV only when it is convinced upon the record before the jury that reasonable persons could not have reached a verdict for the nonmoving party. *Railroad Dynamics*, 727 F.2d at 1513, 220 USPQ at 936; *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

To reverse the district court's denial of the motion for JNOV, Union Oil must convince us that either the jury's factual findings are not supported by substantial evidence, or, if they are, that those findings cannot support the legal conclusions which necessarily were drawn by the jury in forming its verdict. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir.), *cert. denied*, 469 U.S. 857 [ 225 USPQ 792 ] (1984). *Railroad Dynamics*, 727 F.2d at 1512, 220 USPQ at 936. Substantial evidence is more than just a mere scintilla; it is such relevant evidence from the record taken as a whole as a reasonable mind might accept as adequate to support the finding under review. *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938); *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *SSIH Equip. S.A. v. U.S. Int'l Trade Comm'n*, 718 F.2d 365, 371 n.10, 218 USPQ 678, 684 n.10 (Fed. Cir. 1983). A trial court's denial of a motion for JNOV must stand unless the

evidence is of such quality and weight that reasonable and fair-minded persons in the exercise of impartial judgment could not reasonably return the jury's verdict. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 758, 221 USPQ 473, 477 (Fed. Cir. 1984).

Our precedent holds that the presumption of validity afforded a U.S. patent by 35

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U.S.C. § 282 requires that the party challenging validity prove the facts establishing invalidity by clear and convincing evidence. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 770 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [ 224 USPQ 520 ] (1984). Thus, the precise question to be resolved in this case is whether Union Oil's evidence is so clear and convincing that reasonable jurors could only conclude that the claims in issue were invalid. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 935.

### **Anticipation**

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell*, 722 F.2d at 1548, 220 USPQ at 198; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [ 224 USPQ 520 ] (1984). Union Oil asserts that the subject claims of the '343 patent are anticipated under 35 U.S.C. § 102(e) 1 by the teachings found in the original application for U.S. Patent No. 4,315,783 to Stoller, which the jury was instructed was prior art. From the jury's verdict of patent validity, we must presume that the jury concluded that Union Oil failed to prove by clear and convincing evidence that claims 1, 2, and 4 were anticipated by the Stoller patent. *See Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Under the instructions of this case, this conclusion could have been reached only if the jury found that the Stoller patent did not disclose each and every element of the claimed inventions. Having reviewed the evidence, we conclude that substantial evidence does not support the jury's verdict, and, therefore, Union Oil's motion for JNOV on the grounds that the claims were anticipated should have been granted.

The Stoller patent discloses processes for making both urea-phosphoric acid and urea-sulfuric acid fertilizers. Example 8 of Stoller specifically details a process for making 30-0-0-10 urea-sulfuric acid products. There is no dispute that Example 8 meets elements b, c, and d of claim 1, specifically the steps of adding water in an amount not greater than 15% of the product, urea in an amount of at least 50% of the product, and concentrated sulfuric acid in an amount of at least 10% of the product.

Verdegaal disputes that Stoller teaches element a, the step of claim 1 of "providing a non-reactive, nutritive heat sink." As set forth in claim 2, the heat sink is recycled fertilizer. 2

The Stoller specification, beginning at column 7, line 30, discloses:

Once a batch of liquid product has been made, it can be used as a base for further manufacture. This is done by placing the liquid in a stirred vessel of appropriate size, adding urea in sufficient quantity to double the size of the finished batch, adding any water required for the formulation, and slowly adding the sulfuric acid while stirring. Leaving a heel of liquid in the vessel permits further manufacture to be conducted in a stirred fluid mass.

This portion of the Stoller specification explicitly teaches that urea and sulfuric acid can be added to recycled fertilizer, i.e., a heel or base of previously-made product. Dr. Young, Union Oil's expert, so testified. Verdegaal presented no evidence to the contrary.

Verdegaal first argues that Stoller does not anticipate because in Stoller's method sulfuric acid is added *slowly*, whereas the claimed process allows for rapid addition. However, there is no limitation in the subject claims with respect to the rate at which sulfuric acid is added, and, therefore, it is inappropriate for Verdegaal to rely on that distinction. *See SSIH*, 718 F.2d at 378, 218 USPQ at 689. It must be assumed that slow addition would not change the claimed process in any respect including the function



of the recycled material as a heat sink.

Verdegaal next argues that the testimony of Union Oil's experts with respect to what

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Stoller teaches could well have been discounted by the jury for bias. Discarding that testimony does not eliminate the reference itself as evidence or its uncontradicted disclosure that a base of recycled fertilizer in a process may be used to make more of the product.

[1] Verdegaal raises several variations of an argument, all of which focus on the failure of Stoller to explicitly identify the heel in his process as a "heat sink." In essence, Verdegaal maintains that because Stoller did not recognize the "inventive concept" that the heel functioned as a heat sink, Stoller's process cannot anticipate. This argument is wrong as a matter of fact and law. Verdegaal's own expert, Dr. Bahme, admitted that Stoller discussed the problem of high temperature caused by the exothermic reaction, and that the heel could function as a heat sink. 3 In any event, Union Oil's burden of proof was limited to establishing that Stoller disclosed the same process. It did not have the additional burden of proving that Stoller recognized the heat sink capabilities of using a heel. Even assuming Stoller did not recognize that the heel of his process functioned as a heat sink, that property was inherently possessed by the heel in his disclosed process, and, thus, his process anticipates the claimed invention. *See In re Oelrich* , 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981); *In re Swinehart* , 439 F.2d 210, 212-13, 169 USPQ 226, 229 (CCPA 1971). The pertinent issues are whether Stoller discloses the process of adding urea and sulfuric acid to a previously-made batch of product, and whether that base would in fact act as a heat sink. On the entirety of the record, these issues could only be resolved in the affirmative. On appeal Verdegaal improperly attempts to attack the status of the Stoller patent as prior art, stating in its brief:

Verdegaal also introduced evidence at trial that the Stoller patent is not prior art under 35 U.S.C. §§ 102 (e)/103. Professor Chisum testified that the Stoller patent, in his opinion, was not prior art. . . . This conclusion finds support in *In re Wertheim* , 646 F.2d 527 [ 209 USPQ 554 ] (CCPA 1981), and 1 Chisum on Patents §3.07[3].

Appellee Brief at 27 (record cite omitted). Seldom have we encountered such blatant distortion of the record. A question about the status of the Stoller disclosure as prior art did arise at trial. Union Oil asserted that, even though the Stoller patent issued after the '343 patent, Stoller was prior art under section 102(e) as of its filing date which was well before the filing date of Verdegaal's application. Professor Chisum never testified that the Stoller patent was *not* prior art, but rather, stated that *he did not know* whether it was prior art. An excerpt from the pertinent testimony leaves no doubt on this point: Q. (Mr. Sutton): And do you know whether the Stoller patent is prior art to the application of the Verdegaal patent?

A. (Prof. Chisum): I don't know that it is, no.

We find it even more incredible that Verdegaal would attempt to raise an issue with respect to the status of the Stoller patent given that the case was submitted to the jury with the instruction that the original Stoller patent application was prior art. 4 Verdegaal made no objection to that instruction below, and in its appeal briefs, the instruction is cavalierly ignored.

In sum, Verdegaal is precluded from arguing that the Stoller patent should not be considered prior art. *See Fed. R. Civ. P. 51; Weinart v. Rollform Inc.* , 744 F.2d 797, 808, 223 USPQ 369, 375 (Fed. Cir. 1984), *cert. denied* , 105 S.Ct. 1844 (1985); *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.* , 739 F.2d 604, 615, 222 USPQ 654, 662 (Fed. Cir.), *cert. denied* , 469 U.S. 1038 (1984). 5

After considering the record taken as a whole, we are convinced that Union Oil established anticipation of claims 1, 2, and 4 by clear and convincing evidence and that no reasonable juror could find otherwise. Consequently, the jury's verdict on validity is unsupported by substantial evidence and

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cannot stand. Thus, the district court's denial of Union Oil's motion for JNOV must be reversed.

### **Conclusion**

Because the issues discussed above are dispositive of this case, we do not find it necessary to reach the other issues raised by Union Oil. 6 In accordance with this opinion, we reverse the portion of the judgment entered on the jury verdict upholding claims 1, 2, and 4 of the '343 patent as valid under section 102(e) and infringed.

### **REVERSED**

### **Footnotes**

Footnote 1. Section 102(e) provides:

A person shall be entitled to a patent unless--

....

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent

....

Footnote 2. Claim 4 is written in terms of approximate percentages of all reactants by weight of the end product. No argument is made that the process of claim 4 would result in a fertilizer product any different from that disclosed by Example 8 of Stoller.

Footnote 3. There is no dispute that the percentage of heel described in Stoller meets the percentage of heat sink required by the claims.

Footnote 4. The jury instruction read:

Stoller filed two patent applications -- an original application on October 30th, 1978, and a second on February 7th, 1980. Under the patent laws, the claims of the 343 patent are invalid if you find that the original application (Exhibit BL) anticipates the process claimed in the 343 patent.

Footnote 5. Union Oil also argues that Verdegaal's counsel misled the jury by its closing rebuttal argument:

ut I think it's important to keep in mind that [Stoller] couldn't have been a prior patent because it issued a month after the Verdegaal patent had issued.

We disapprove of Verdegaal's tactic which would form the basis for a grant of a motion for a new trial but for our conclusion that outright reversal of the ruling on the motion for JNOV is in order.

Footnote 6. It should not be inferred that all of these issues were properly before us. Union Oil appears to assume that on appeal it may dispute the resolution of any *issue* which is denominated an "issue of law" even though it was not raised in its motion for JNOV. This is incorrect. *See Railroad Dynamics*, 727 F.2d at 1511, 220 USPQ at 934.

- End of Case -

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